

## Unit 1-7

## Total Points Possible - 145

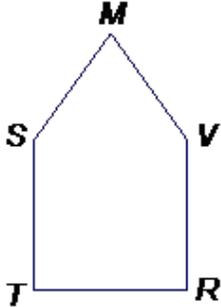
## Test Overview:

1

In the pentagon,  $\overline{ST} \perp \overline{TR}$  and  $\overline{VR} \perp \overline{TR}$ ,  $\angle S \cong \angle V$ , and  $m\angle M = 72$ . Find  $m\angle V$ .

[Use test tools](#)

Points: 1



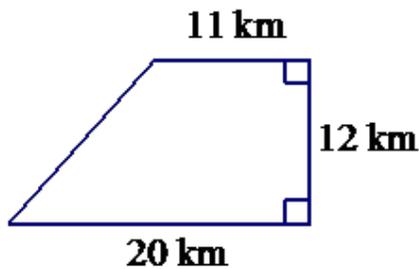
- $72^\circ$
- $90^\circ$
- $108^\circ$
- $144^\circ$

2

George has a piece of land in the shape shown below.

[Use test tools](#)

Points: 1



If George wants to put a fence around his entire piece of land, how much fencing will he need to buy?

- 15 km
- 43 km
- 52 km
- 58 km

3 What is the equation of the line  $y = 2x + 5$  after a translation  $x \rightarrow x + 0$ ,  $y \rightarrow y - 3$ ?

[Use test tools](#)

Points: 1

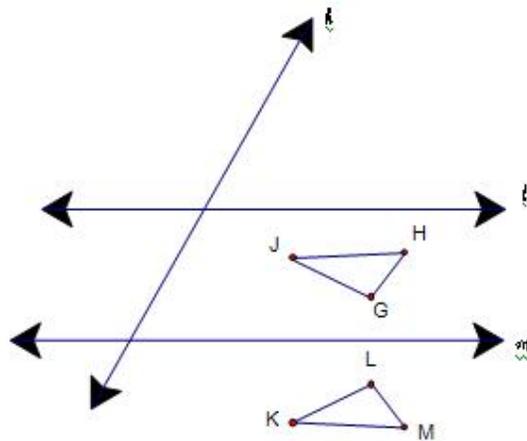
- $y = -3$
- $y - 3 = 2x + 5$
- $y = -x + 5$
- $y = 2x + 2$

- 4 If you start with a preimage line with equation  $y = 3x - 1$  and rotate it  $90^\circ$  counterclockwise about the origin, what is the slope of the image line? [Use test tools](#) **Points: 1**
- 3  
 -3  
  $1/3$   
  $-1/3$

- 5 Which of the following could describe the relationship between a segment and its image after a rotation of  $270^\circ$ ? [Use test tools](#) **Points: 1**
- The pre-image and image could be congruent and parallel.  
 pre-image and image could be congruent and perpendicular.  
 The image could be 3 times longer than the pre-image and they would be parallel.  
 The image could be  $\frac{1}{3}$  the length of the pre-image and they would be perpendicular.

- 6 [Use test tools](#) **Points: 1**

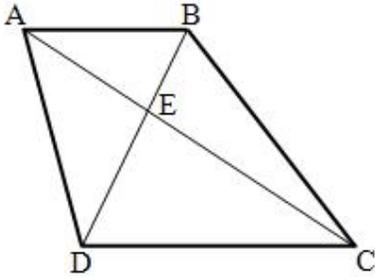
In the figure,  $l \parallel m$ .



If  $\triangle KLM$  is reflected twice; once over line  $m$  and then over line  $l$ , the resulting transformation would be a

- reflection  
 rotation  
 translation  
 dilation
- 7 [Use test tools](#) **Points: 1**

In the figure shown below,  $AE = 10$ ,  $CE = 14$ , and  $BE = 6$ .



What value for the measure of  $\overline{DE}$  would make  $\triangle ABE$  similar to  $\triangle CDE$ ?

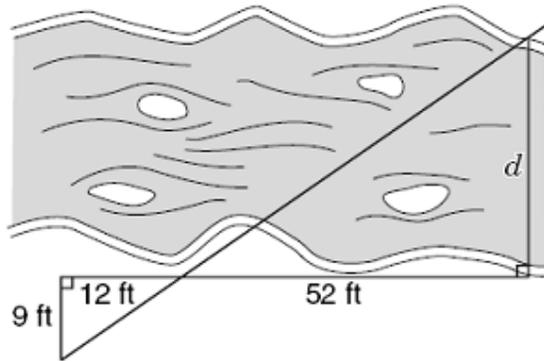
- 6.8
- 7.5
- 8.4
- 10

8

[Use test tools](#)

Points: 1

The distance across a river was estimated by making the measurements shown.



What is the approximate distance,  $d$ ?

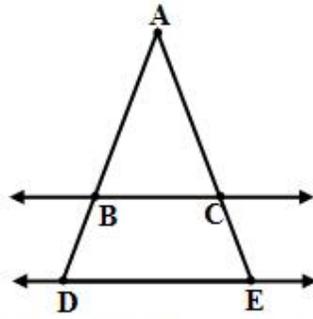
- 20 feet
- 30 feet
- 40 feet
- 50 feet

9

[Use test tools](#)

Points: 1

$\overline{BC}$  and  $\overline{DE}$  are parallel.



Which of the following statements is true?

$\frac{AD}{AB} = \frac{AE}{AC}$

$\frac{BC}{DE} = \frac{AC}{EC}$

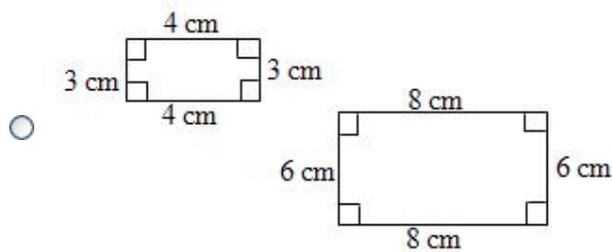
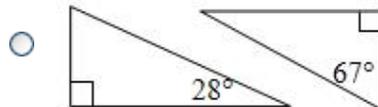
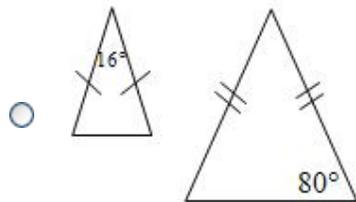
$\frac{AD}{CE} = \frac{AE}{DB}$

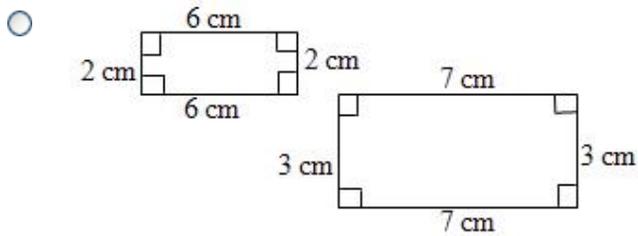
$\frac{BD}{AB} = \frac{CE}{DE}$

10 Using the information given in each diagram, which is a pair of similar polygons?

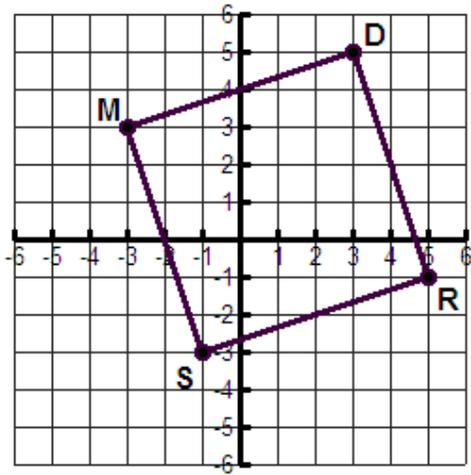
[Use test tools](#)

Points: 1





- 11 A triangle has side lengths 1, 1.5, and 2 units. Which of the following could be the lengths of the sides of a triangle that was formed by dilating the given triangle? [Use test tools](#) **Points: 1**
- 1, 3, and 4 units
- 2, 4, and 6 units
- 4, 4.5, and 5 units
- 4, 6, and 8 units
- 12 A builder sketches plans for a room in a house using a scale factor of 1:18. In the plans, the [Use test tools](#) **Points: 1**
- room is a rectangle that measures 1 foot by  $1\frac{1}{2}$  feet. What are the dimensions of the actual room in the house?
- 6 feet by 9 feet
- 9 feet by 18 feet
- 9 feet by 27 feet
- 18 feet by 27 feet
- 13 Jessica, Roberto and Kayla all live in Sugar Land. Kayla lives exactly halfway between Jessica and Roberto. On a map, the coordinates of Jessica and Roberto's homes are (-10, 8) and (8, -10), respectively. What are the coordinates of Kayla's home? [Use test tools](#) **Points: 1**
- (-9, 9)
- (-2, -2)
- (-1, -1)
- (-1, 1)
- 14 Look at rectangle MDRS shown below. [Use test tools](#) **Points: 1**



What is the approximate length of each diagonal of this rectangle?

- 2.8 units
- 8.9 units
- 7.3 units
- 10.3 units

**15**  $\overline{AR}$  is the diameter of circle E. If the endpoints of the diameter are (8, 4) and (-6, -10), what are the coordinates of the center of circle E?

[Use test tools](#)

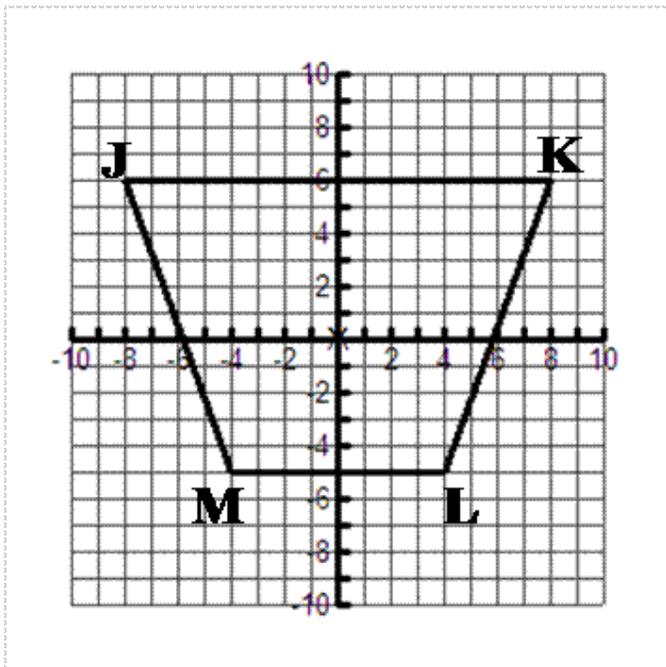
Points: 1

- (1, -3)
- (7, -3)
- (1, -7)
- (7, -7)

**16** What is the approximate distance between J and L in isosceles trapezoid JKLM?

[Use test tools](#)

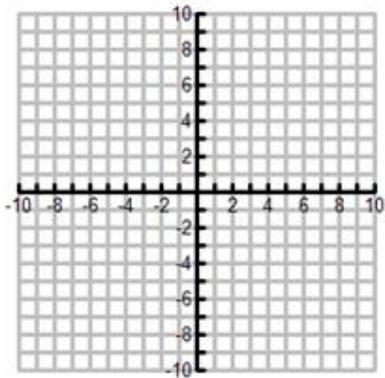
Points: 1



- 4.1 units
- 11.7 units
- 13.6 units
- 16.3 units

17 A coordinate grid is placed over a map. City A is located at  $(-3, 2)$  and City B is located at  $(4, 8)$ . If City C is at the midpoint between City A and City B, which is closest to the distance in coordinate units from City A to City C? [Use test tools](#)

Points: 1



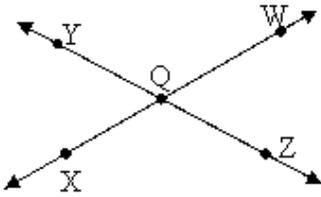
- 4.61 units
- 6.52 units
- 9.22 units
- 21.25 units

18 Look at the diagram below.

[Use test tools](#)

Points: 1

What conclusion can be drawn about  $\angle YQX$  and  $\angle WQZ$  ?

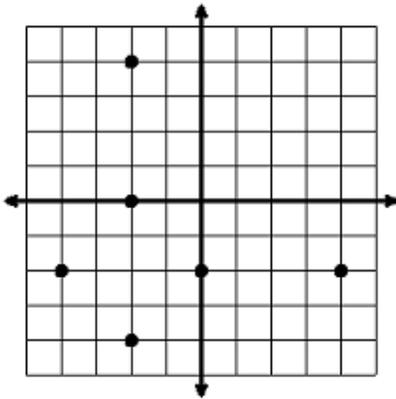


- The are congruent.
- They are adjacent.
- They are supplementary.
- No conclusion can be drawn.

- 19** If Becky connects the coordinates  $A(-2,4)$ ,  $B(-4,-2)$ , and  $C(0,-2)$  from those shown, what kind of triangle will be formed?

[Use test tools](#)

Points: 1



- Isosceles Triangle
- Equilateral Triangle
- Equiangular Triangle
- Scalene Triangle

- 20**  $\angle 1$  and  $\angle 2$  are supplementary angles. If  $m\angle 2 = 67^\circ$ , which conclusion is valid?

[Use test tools](#)

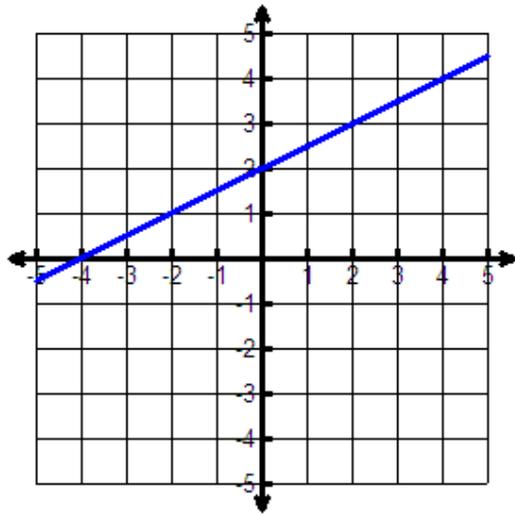
Points: 1

- $\angle 1$  must be an acute angle because supplementary angles add up to  $90^\circ$ .
- From the definition of supplementary angles,  $\angle 1$  must be a right angle.
- $m\angle 1 = 23^\circ$  because supplementary angles add up to  $90^\circ$ .
- $m\angle 1 = 113^\circ$  because supplementary angles add up to  $180^\circ$ .

- 21** Look at the graph below.

[Use test tools](#)

Points: 1



Which of the following represents a line parallel to the graphed line?

- $y = -2x + 3$   
  $2y = x - 4$   
  $2y = 3x - 2$   
  $2y = -x + 4$

22 Line  $m$  contains (1,-3) and (2,2). Which of the following pairs of points determine a line perpendicular to  $m$  ? [Use test tools](#)

Points: 1

- (0, 0) and (-1,1)  
 (0,0) and (1,5)  
 (1,3) and (6,2)  
 (-4,0) and (5,5)

23 Which of the following best describes the graph of the equations below? [Use test tools](#)

Points: 1

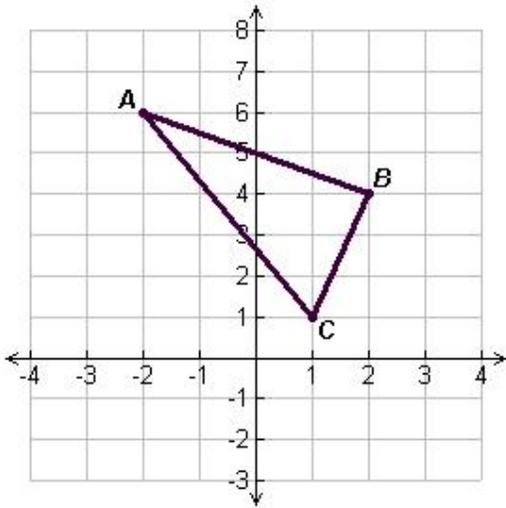
$$y = 4 - 2x$$

$$4y = 2x + 1$$

- The lines have the same x-intercept.  
 The lines have the same y-intercept.  
 The lines are perpendicular to each other.  
 The lines are parallel to each other.

24 Which equation represents a line parallel to  $\overline{AB}$  ? [Use test tools](#)

Points: 1

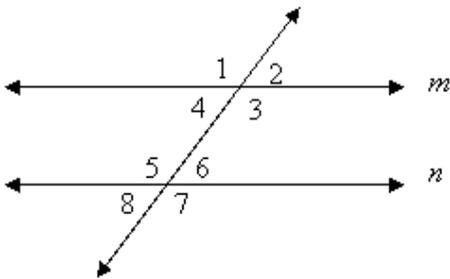


- $y = -\frac{5}{3}x - 2$
- $y = 3x + 6$
- $y = \frac{-1}{2}x - 3$
- $y = 2x - 1$

25 In the diagram below, lines  $m$  and  $n$  are parallel.

[Use test tools](#)

Points: 1



Which of the following can you correctly conclude from the diagram?

- $\angle 1$  and  $\angle 2$  are complementary because the sum of their measures is 90 degrees.
- $\angle 1$  is congruent to  $\angle 5$  because corresponding angles of parallel lines are congruent.
- $\angle 2$  and  $\angle 8$  are supplementary angles because the sum of their measures is 180 degrees.
- $\angle 4$  is congruent to  $\angle 5$  because vertical angles are congruent.

26  $\overleftrightarrow{AB}$  is perpendicular to  $\overleftrightarrow{CD}$ . Which conclusion cannot be drawn?

[Use test tools](#)

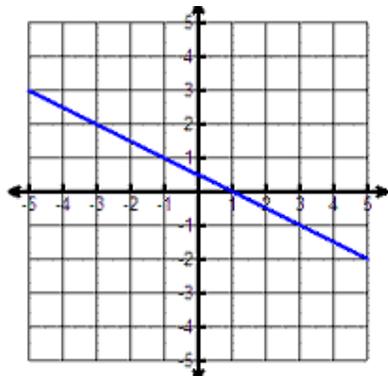
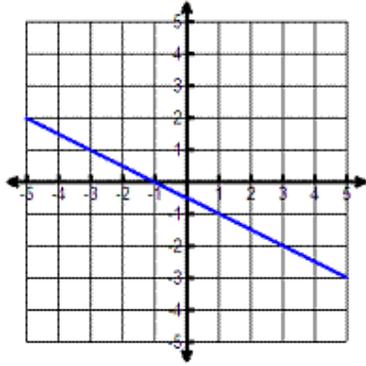
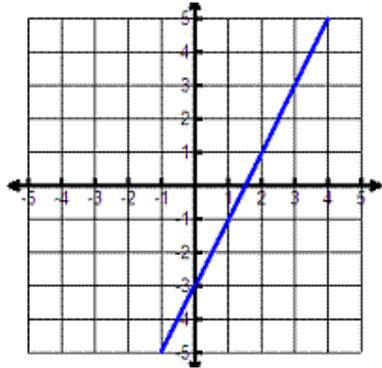
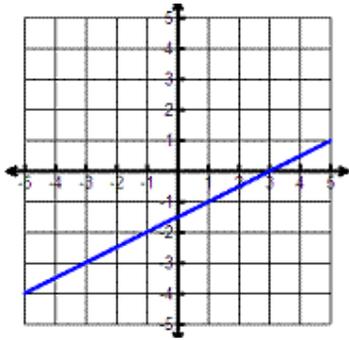
Points: 1

- The two lines intersect to form right angles.
- The adjacent angles formed are adjacent and supplementary.
- The vertical angles formed are complementary.
- Points A, B, C, and D are coplanar.

27 Which graph best represents the line passing through the point  $(1, -1)$  and parallel to the line  $y = 2x + 1$ ?

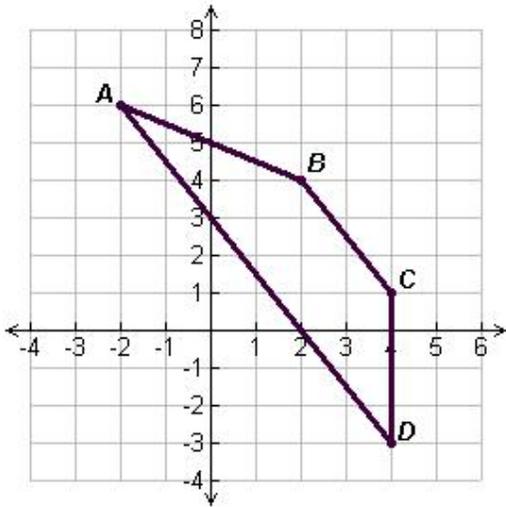
[Use test tools](#)

Points: 1



28 Which equation represents the line containing the altitude of Trapezoid  $ABCD$  passing through point  $C$ ? [Use test tools](#)

Points: 1

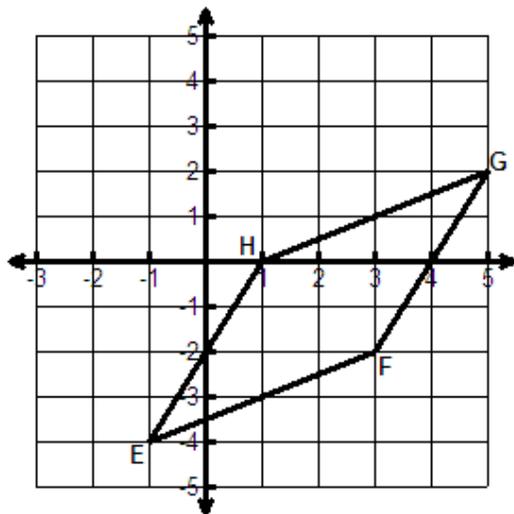


- $2x - 3y = -22$   
  $2x - 3y = 5$   
  $2x - 3y = 8$   
  $2x - 3y = 17$

- 29 Rhombus EFGH is on the graph below. Which equation best represents a line that is perpendicular to  $\overline{HF}$  ?

[Use test tools](#)

Points: 1



- $y = x + 1$   
  $y = -x + 2$   
  $y = 2x + 1$   
  $y = -\frac{1}{2}x + 1$

- 30 Use the table to determine the expression that best represents the number of diagonals of any convex polygon having  $n$  sides.

[Use test tools](#)

Points: 1

- $n - 3$

$$\frac{n-3}{2}$$

- $\frac{n(n-3)}{2}$
- $n(n-3)$

31 Which of the following sets of numbers represents the side lengths, in units, of a right triangle?

[Use test tools](#)

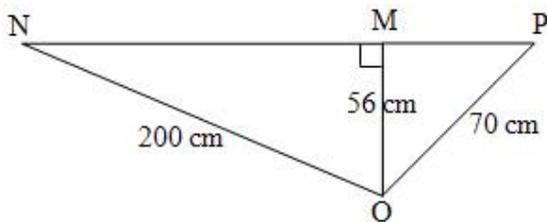
Points: 1

- 6.2, 5.8, 12
- 4.8, 7, 8.2
- 4, 8.5, 7.5
- 6, 4.2, 3.8

32 In the figure below, what is the length of  $\overline{NP}$  in centimeters?

[Use test tools](#)

Points: 1



- 42 cm
- 192 cm
- 212 cm
- 234 cm

33 Approximately how many feet of fencing would be needed to enclose a rectangular garden that has a 30-foot-long side and a 60-foot-long diagonal?

[Use test tools](#)

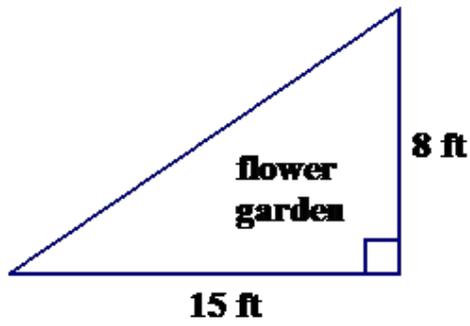
Points: 1

- 52 feet
- 164 feet
- 180 feet
- 224 feet

34 Frances is helping her grandmother put a flower garden in her backyard. They are going to put a rock border around the entire garden and will be using rocks that are each 6 inches long. How many rocks will they need for the entire border?

[Use test tools](#)

Points: 1

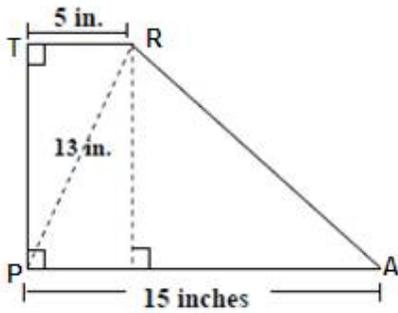


- 17 rocks
- 20 rocks
- 40 rocks
- 80 rocks

35 Trapezoid TRAP is shown below.

[Use test tools](#)

Points: 1



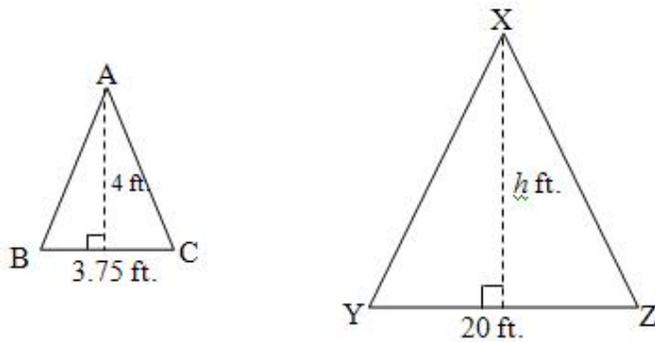
What is the approximate length of  $\overline{RA}$ ?

- 14
- 16
- 18
- 20

36 In order to construct a triangular roof, Bill enlarged  $\triangle ABC$  to create the similar  $\triangle XYZ$  shown below.

[Use test tools](#)

Points: 1



Which proportion can be used to find the height,  $h$ , of  $\triangle XYZ$ ?

- $y = \frac{2}{3}x + 6$
- $y = 6x + \frac{2}{3}$
- $-2x + 3y = 6$
- $2x - 3y = 6$

37  $\angle 1$  and  $\angle 2$  are supplementary angles. If  $m\angle 2 = 67$ , which conclusion is valid?

[Use test tools](#)

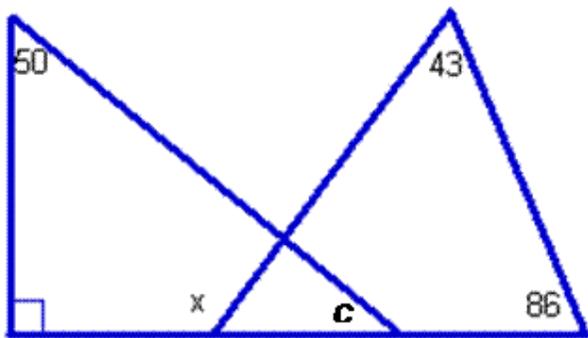
Points: 1

- 1 must be an acute angle, because supplementary angles add up to 90 degrees.
- From the definition of supplementary angles,  $\angle 1$  must be a right angle.
- $m\angle 1 = 23$ , because supplementary angles add up to 90 degrees.
- $m\angle 1 = 113$ , because supplementary angles add up to 180 degrees.

38 Which pair of answers contains the correct values for  $x$  and  $c$  in the figure below?

[Use test tools](#)

Points: 1



- $x = 86^\circ$ ;  $c = 114^\circ$
- $x = 50^\circ$ ;  $c = 50^\circ$
- $x = 129^\circ$ ;  $c = 40^\circ$
- $x = 43^\circ$ ;  $c = 50^\circ$

39

[Use test tools](#)

Points: 1

$\overline{AB}$  is perpendicular to  $\overline{CD}$ . Which conclusion cannot be drawn?

- The two lines intersect to form four right angles.
- The adjacent angles formed are congruent and supplementary.
- The vertical angles formed are complementary.
- Points A, B, C, and D are coplanar.

40 The following problem was assigned for homework:

[Use test tools](#)

Points: 1

$F$  is between  $E$  and  $G$ .  $EG = 100$ ,  $EF = 4x - 20$ ,  $FG = 2x + 30$ .

Mary and John make these conclusions:

Mary: "F is the midpoint of EG."

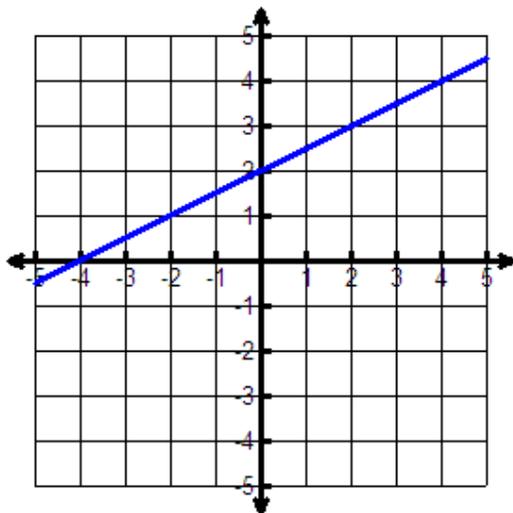
John: "F is not the midpoint of EG."

- Mary's conclusion is correct because she used the definition of midpoint and set  $4x - 20 = 2x + 30$ . When she did this, she found that  $x = 25$ .
- John's conclusion is correct because he used segment addition to find  $x = 15$  and when he plugged that in,  $EF$  and  $EG$  were not equal.
- Neither Mary nor John is correct

41 Look at the line graphed below.

[Use test tools](#)

Points: 1



Which equation describes a line perpendicular to the graphed line?

- $y = -2x + 3$
- $2y = x - 4$
- $2y = 3x - 2$
- $2y = -x + 4$

42 Line  $m$  contains points (1, -3) and (2, 2). Which of the following pairs of points determine a line parallel to line  $m$ ?

[Use test tools](#)

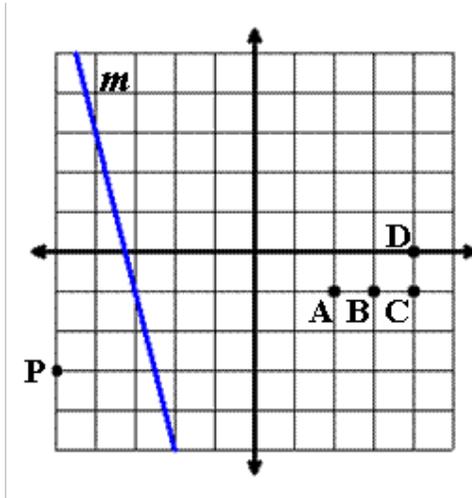
Points: 1

- (0, 0) and (-1, 1)
- (0, 0) and (1, 5)
- (1, 1) and (6, 2)
- (-4, 0) and (5, 5)

43 Which point, together with point P, defines a line that is perpendicular to line  $m$ ?

[Use test tools](#)

Points: 1

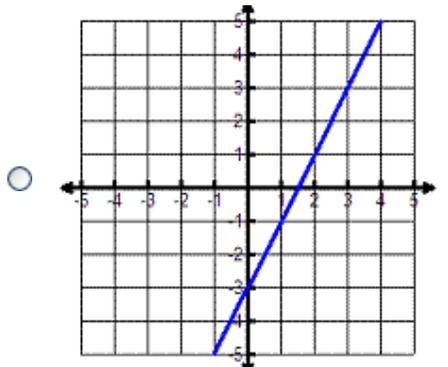
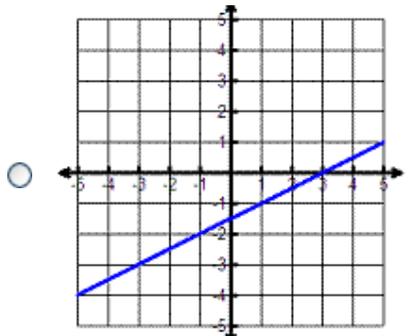


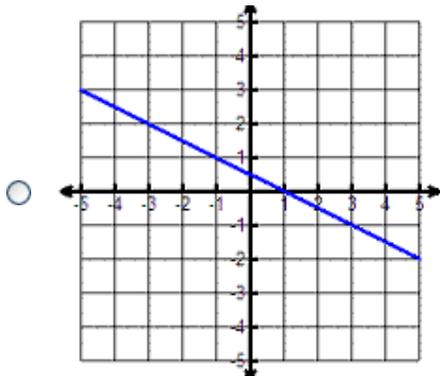
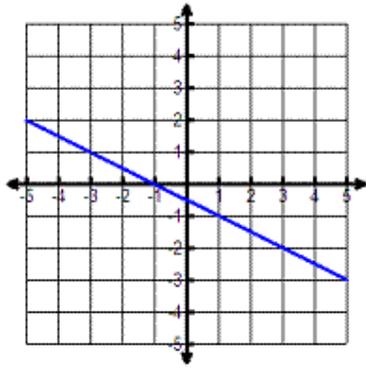
- point A
- point B
- point C
- point D

44 Which graph best represents the line passing through the point  $(1, -1)$  and perpendicular to the line  $y = 2x + 1$ ?

[Use test tools](#)

Points: 1





45 Which of the following best describes the graph of the equations below?

[Use test tools](#)

Points: 1

$$1.5y = \frac{9}{2}x + 10.5$$

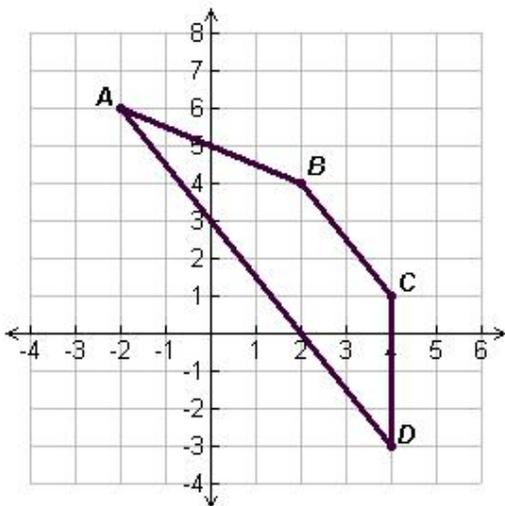
$$3x - y = -7$$

- The lines have the same x-intercept.
- The lines have the same y-intercept.
- The lines are perpendicular.
- The lines are parallel to each other.

46

[Use test tools](#)

Points: 1



Which pair of equations describes the lines that contain the bases of the trapezoid?

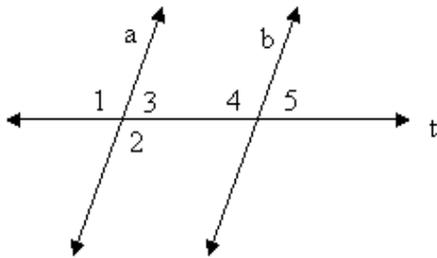
$y = -\frac{3}{2}x + 3$  and  $y = -\frac{3}{2}x + 7$

- $y = \frac{3}{2}x + 3$  and  $y = \frac{3}{2}x + 1$
- $y = -\frac{2}{3}x + 5$  and  $y = -\frac{2}{3}x + 7$
- $y = \frac{2}{3}x + 3$  and  $y = \frac{2}{3}x + 5$

- 47 In the figure below, lines  $a$  and  $b$  are parallel. Which conclusion is valid?

[Use test tools](#)

Points: 1



- $\angle 1$ ,  $\angle 3$ , and  $\angle 4$  are  $\cong$
- $\angle 1$ ,  $\angle 2$ , and  $\angle 4$  are  $\cong$
- $\angle 2$ ,  $\angle 4$ , and  $\angle 5$  are  $\cong$
- $\angle 1$ ,  $\angle 2$ , and  $\angle 5$  are  $\cong$
- 48 The size of a rectangular television screen is measured along its diagonal. If a 42 inch television screen has a length of 33 inches, which one of the following equations can be used to find the width,  $w$ , of the television?
- $w + 33 = 42$
- $33^2 + 42^2 = w^2$
- $w^2 - 33^2 = 42^2$
- $42^2 - 33^2 = w^2$

[Use test tools](#)

Points: 1

- 49 Line  $P$  contains the points at  $(1, 3)$  and  $(-2, -3)$ . Which equation best represents a line parallel to line  $P$ ?
- $y = 2x - 5$
- $y = -2x + 1$
- $y = 6x + 2$
- $y = -6x + 3$

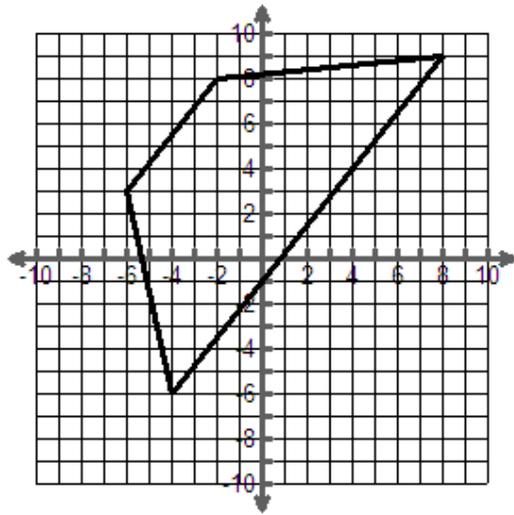
[Use test tools](#)

Points: 1

- 50 The figure graphed below is a trapezoid.

[Use test tools](#)

Points: 1



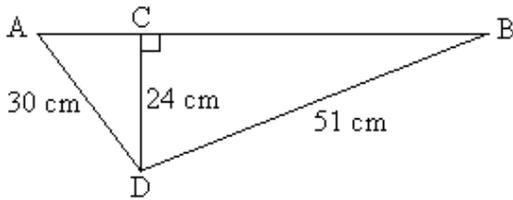
What is the approximate length of the shortest base?

- 3
- 5
- 6.4
- 9.2

51 In the figure below what is the length of  $\overline{AB}$  in centimeters.

[Use test tools](#)

Points: 1

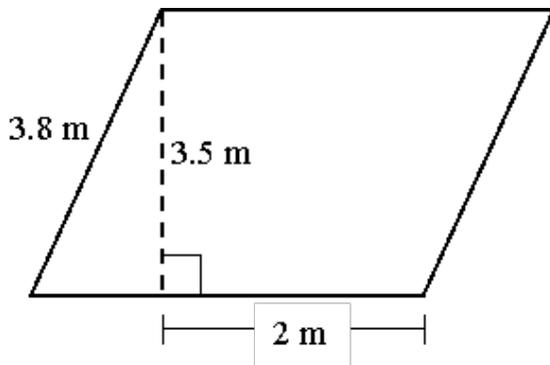


- 18
- 45
- 63
- 94

52 What is the perimeter of the parallelogram shown below?

[Use test tools](#)

Points: 1



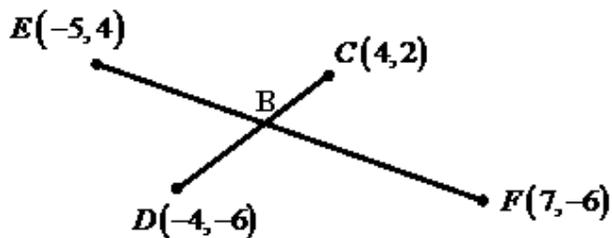
- 1.5 m
- 2.19 m
- 11.6 m
- 14.6 m

53

If  $\overline{CD}$  bisects  $\overline{EF}$  at  $B$ , find the coordinates of  $B$ .

[Use test tools](#)

Points: 1



- (1,1)
- (1,-1)
- (0,-2)
- (-6,5)

54  $\overline{GH}$  and  $\overline{FK}$  intersect at point  $R$ . John drew the following conclusions.

[Use test tools](#)

Points: 1

- I  $\angle GRF \cong \angle KRH$
- II Points F, R, and K are collinear.
- III Points F, G, H, and K are collinear.

Which conclusions are valid?

- I and II only
- I and III only
- II and III only
- I, II, and III

55 The entrance to a tent is in the shape of an isosceles triangle which has a height of 4 feet. Two sides of the tent are each 6 feet long. What is the approximate length of the base of the triangle?

[Use test tools](#)

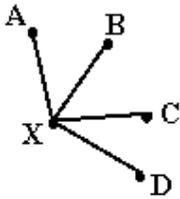
Points: 1

- 4.5 feet
- 7.2 feet
- 8.9 feet
- 14.4 feet

- 56 In the figure below,  $\overline{XB} \perp \overline{XD}$  and  $\overline{XB}$  bisects  $\angle AXC$ . Which conclusion is valid?

[Use test tools](#)

Points: 1

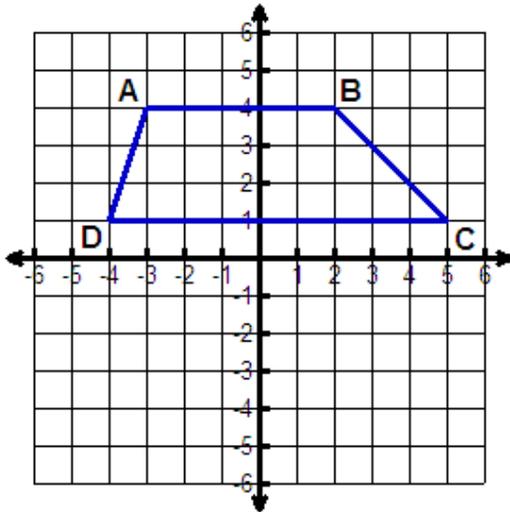


- $\angle BXC = 45^\circ$   
  $\angle AXB \cong \angle BXC$   
  $\angle BXC \cong \angle CXD$   
  $\angle AXC$  is a right angle

- 57 Trapezoid  $ABCD$  is graphed below.

[Use test tools](#)

Points: 1



Which equation describes a line that is parallel to  $\overline{BC}$ ?

- $y = -x + 5$   
  $y = x + 5$   
  $y = -3x + 4$   
  $y = 3x + 13$

58 Which of the following best describes the relationship of the equations below?

[Use test tools](#)

Points: 1

$$3x + 2y = 12$$

$$4x - 6y = 12$$

- The lines have the same x-intercept.
- The lines have the same y-intercept
- The lines are parallel to each other.
- The lines are perpendicular.

59 Below is a step-by-step geometric procedure.

[Use test tools](#)

Points: 1

- I. Add the 1<sup>st</sup> x-coordinate value to the 2<sup>nd</sup> x-coordinate value and divide by two.
- II. Add the 1<sup>st</sup> y-coordinate value to the 2<sup>nd</sup> y-coordinate value and divide by two.
- III. Write your answers from step I and step II as an ordered pair.

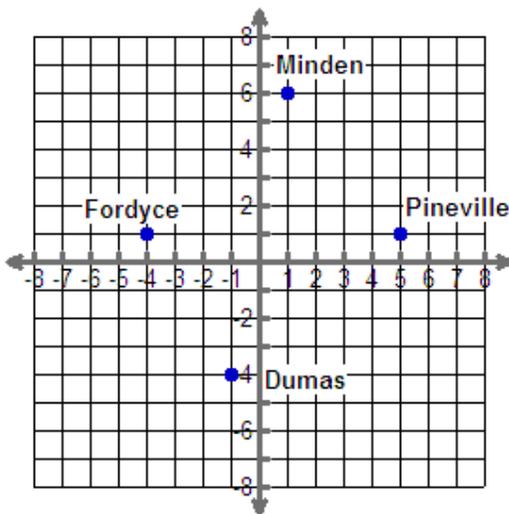
Which of the following does the procedure best represent?

- Calculating the slope
- Calculating the y-intercept of the graph
- Calculating the length of a line segment
- Calculating the midpoint of a line segment

60 A coordinate grid is placed over a map.

[Use test tools](#)

Points: 1



Of the cities shown on the map above, which two are closest together?

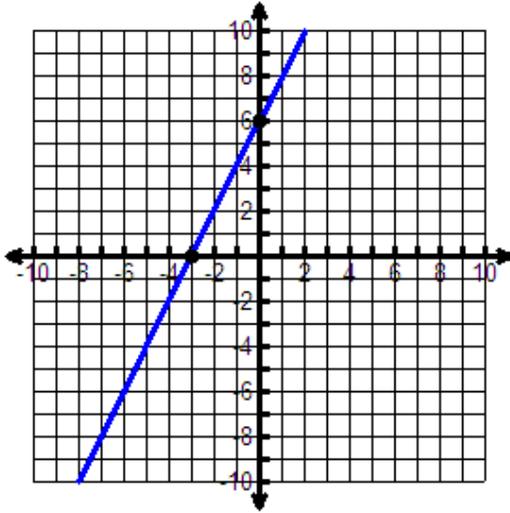
- Fordyce and Pineville
- Fordyce and Dumas
- Pineville and Dumas
- Minden and Fordyce

61

[Use test tools](#)

Points: 1

What is the y-intercept of the line that passes through the point  $(2, 0)$  and is perpendicular to the line graphed below?



- $(0, -6)$
- $(0, 6)$
- $(0, 1)$
- $(0, -1)$

62  $\overleftrightarrow{AB}$  is parallel to  $\overleftrightarrow{CD}$ . Which conclusion is valid?

[Use test tools](#)

Points: 1

- The two lines have the same y-intercept but different slopes.
- The two lines have the same slope but different y-intercepts.
- The two lines have different slopes but the same x-intercepts.
- The two lines have the same x-intercept but different y-intercepts.

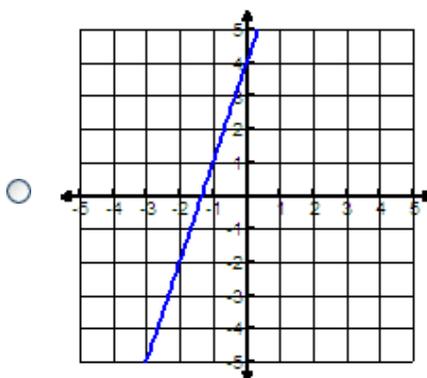
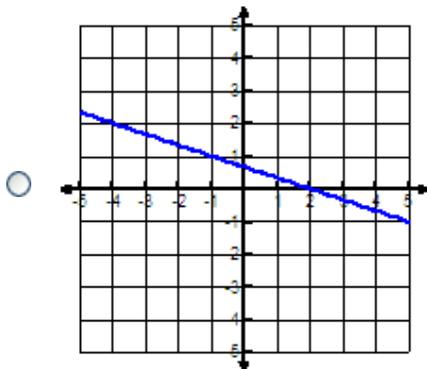
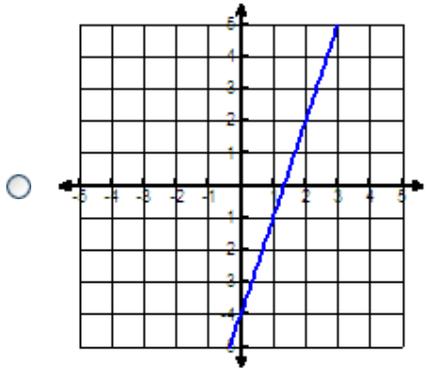
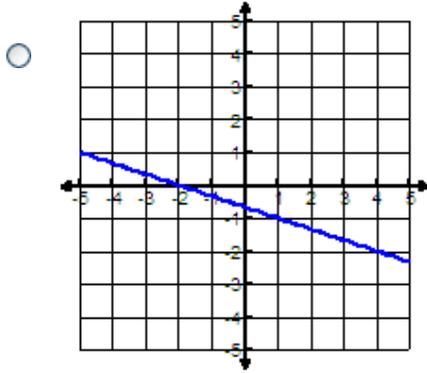
63

[Use test tools](#)

Points: 1

Which graph best represents the line passing through the point  $(1, -1)$  that is parallel to the line

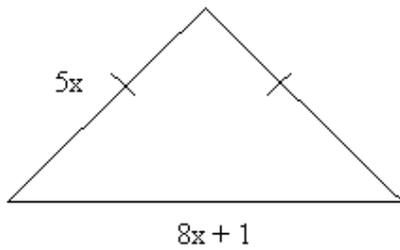
$$y = -\frac{1}{3}x + 4?$$



64 The perimeter of the isosceles triangle drawn below is 55 cm. What is the sum of the two congruent legs?

[Use test tools](#)

Points: 1

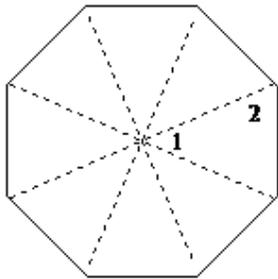


- 3
- 15
- 25
- 30

65 Given the regular polygon shown below, find the measure of  $\angle 1$  and  $\angle 2$ .

[Use test tools](#)

Points: 1

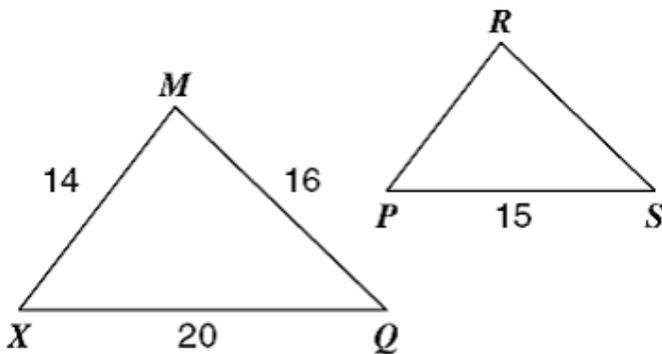


- $m\angle 1 = 45, m\angle 2 = 135$
- $m\angle 1 = 45, m\angle 2 = 67.5$
- $m\angle 1 = m\angle 2 = 60$
- $m\angle 1 = 22.5, m\angle 2 = 78.75$

66 Which proportion can be used to find the value of  $\overline{PR}$  if  $\triangle XMQ$  is similar to  $\triangle PRS$ ?

[Use test tools](#)

Points: 1



- $\frac{20}{15} = \frac{14}{PR}$
- $\frac{10}{5} = \frac{7}{PR}$
- $\frac{14}{20} = \frac{15}{PR}$

$\frac{15}{20} = \frac{14}{PR}$

67 Which of the following translations would create an image that was not congruent to the original?

[Use test tools](#)

Points: 1

- A rotation of  $180^\circ$
- A reflection across the x-axis
- A dilation by a scale factor of three
- A translation of one unit to the right and three units down

68 In  $\triangle CAT$ , if  $m\angle C < 90^\circ$  and  $m\angle A = m\angle T$ , then  $\triangle CAT$  is

[Use test tools](#)

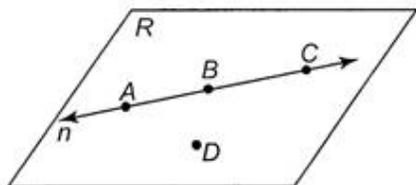
Points: 1

- acute and scalene
- acute and isosceles
- right and scalene
- right and isosceles

69 Which statement is true about line  $n$  in the figure below?

[Use test tools](#)

Points: 1



- It contains point A.
- It contains  $\overline{BC}$ .
- It is contained in plane R.
- All of the above.

70 The table below shows information about a pattern of regular polygons with certain numbers of sides. If the pattern continues, what is the perimeter of a regular polygon with 8 sides?

[Use test tools](#)

Points: 1

Sides	Perimeter
3	30 cm
4	36 cm
5	40 cm
6	42 cm

- 40 cm
- 44 cm
- 48 cm
- 80 cm

71 If the sum of the measures of the two remote interior angles of a triangle is less than 90 degrees, how would you classify the triangle?

[Use test tools](#)

Points: 1

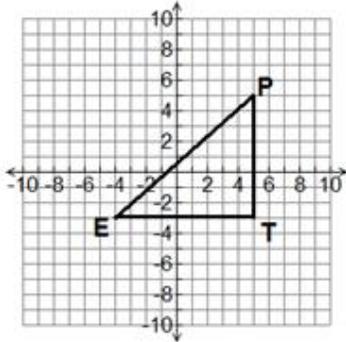
- acute triangle

- obtuse triangle
- right triangle
- equiangular triangle

- 72 Triangle PET is graphed below. What would be the ordered pair for E' if the translation is a slide of 3 units down and 4 units to the right?

[Use test tools](#)

Points: 1

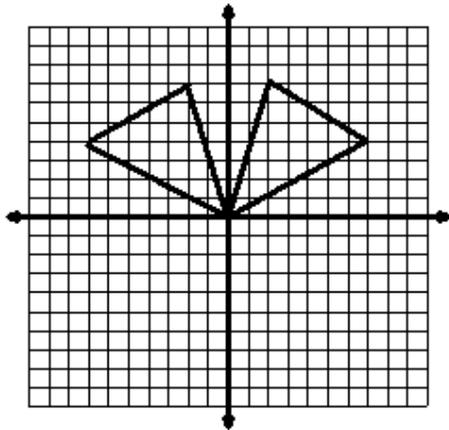


- (-1, -7)
- (9, 2)
- (0, -6)
- (9, -6)

- 73 Which transformation would create the picture below?

[Use test tools](#)

Points: 1



- Reflection across the x-axis
- Reflection across the y-axis.
- Reflection across the line  $y = x$ .
- Reflection across the line  $y = -x$ .

- 74 Find the sum of the measures of the exterior angles of a convex 14-gon.

[Use test tools](#)

Points: 1

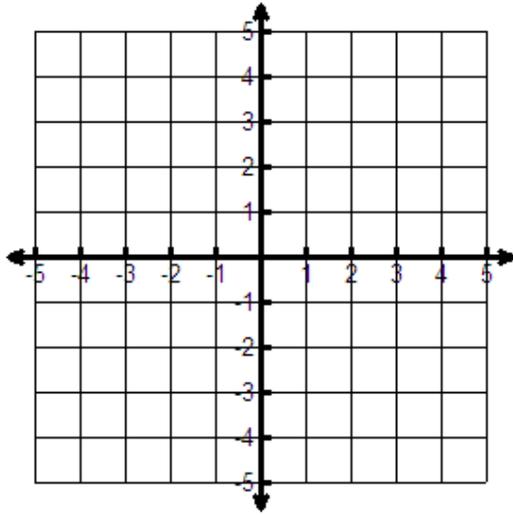
- $180^\circ$
- $360^\circ$
- $2160^\circ$

2520°

75 The following points can be used to form several line segments.  
 A(-2, 2); B(4, 3); C(-5, -3); D(1, -5); F(1, -1)

[Use test tools](#)

Points: 1



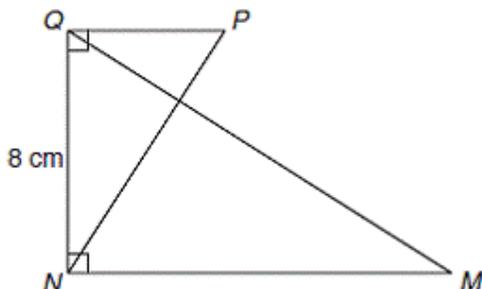
Which line segment has a midpoint that lies in Quadrant II?

- $\overline{AB}$
- $\overline{AC}$
- $\overline{AD}$
- $\overline{AF}$

76 In the figure below,  $\triangle DQNM \sim \triangle DPQN$  and  $NM = 10.5\text{ cm}$

[Use test tools](#)

Points: 1



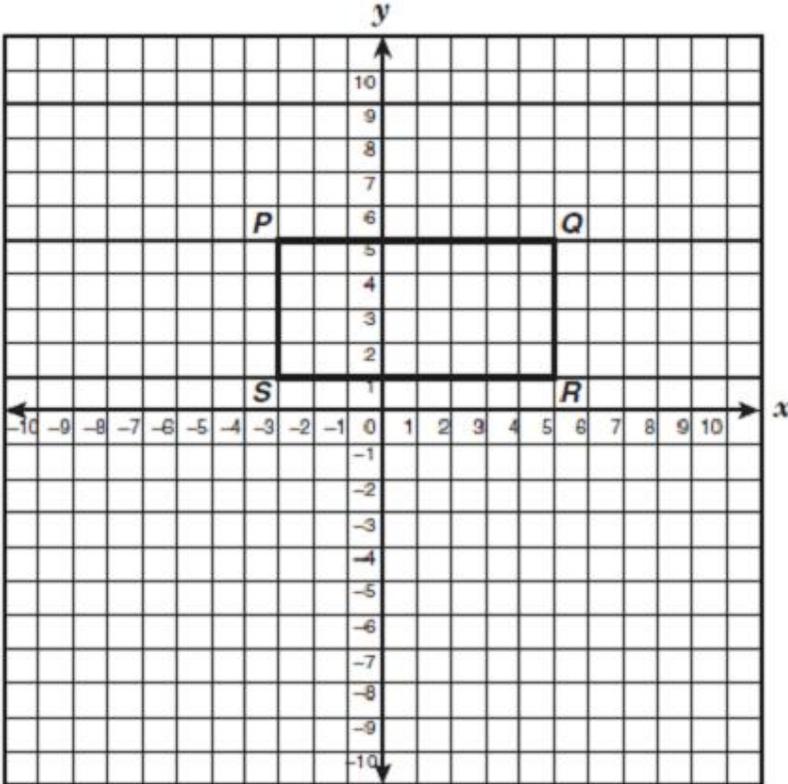
What is the approximate length of  $\overline{PQ}$ ?

- 4 cm
- 5.5 cm
- 6 cm
- 10.5 cm

77 Rectangle PQRS is shown on the grid below.

[Use test tools](#)

Points: 1



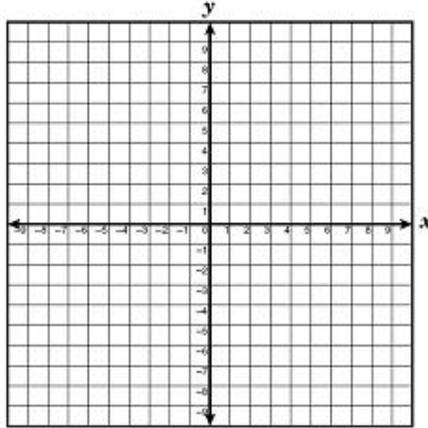
Which equation best represents a line that is parallel to  $\overline{PR}$ ?

- $y = 2x - 5$

- $y = -2x + 4$
- $y = \frac{1}{2}x - 2$
- $y = -\frac{1}{2}x + 7$

- 78** A coordinate grid is placed over a map. City A is located at  $(-3, 2)$  and City B is located at  $(4, 8)$ . If City C is [Use test tools](#) at the midpoint between City A and City B, which is the closest to the distance in coordinate units from City A to City C?

Points: 1

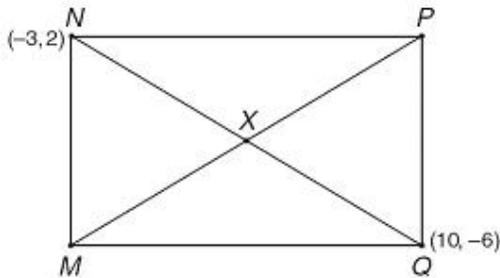


- 4.61 units
- 6.52 units
- 9.22 units
- 21.25 units

- 79** Rectangle MNPQ has diagonals that intersect at point X.

[Use test tools](#)

Points: 1

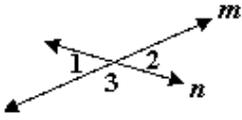


Which of the following represents point X?

- $\left(-\frac{7}{2}, 2\right)$
- $\left(\frac{13}{2}, 4\right)$
- $\left(-\frac{13}{2}, -4\right)$
- $\left(\frac{7}{2}, -2\right)$

- 80** Order these statements using logical reasoning to prove the statement "[Vertical angles are congruent.](#)" [Use test tools](#)

Points: 1



Lines  $m$  and  $n$  intersect to form vertical angles 1 and 2.

E  $m\angle 1 = m\angle 2$

F  $\angle 1$  and  $\angle 3$  are supplementary.  $\angle 3$  and  $\angle 2$  are supplementary.

G  $\angle 1 \cong \angle 2$

H  $m\angle 1 + m\angle 3 = 180^\circ$      $m\angle 3 + m\angle 2 = 180^\circ$

J  $m\angle 1 + m\angle 3 = m\angle 3 + m\angle 2$

- F, H, J, E, G  
 F, J, E, H, G  
 H, J, F, E, G  
 H, F, E, G, J

81 Which of these statements is a counterexample for the statement "The area is always greater than the perimeter of a rectangle."? [Use test tools](#) **Points: 1**

- The area of a rectangle with dimensions 2 units by 3 units is less than the perimeter of the same rectangle  
 The area of a rectangle with dimensions 4 units by 6 units is greater than the perimeter of the same rectangle.

82 The table below shows the number of line segments that can be drawn between a given number of points. [Use test tools](#) **Points: 1**

Number of Points	1	2	3	4
Points				
Number of Line Segments	0	1	3	6

Which expression can be used to determine the number of line segments that can be drawn between  $n$  points?

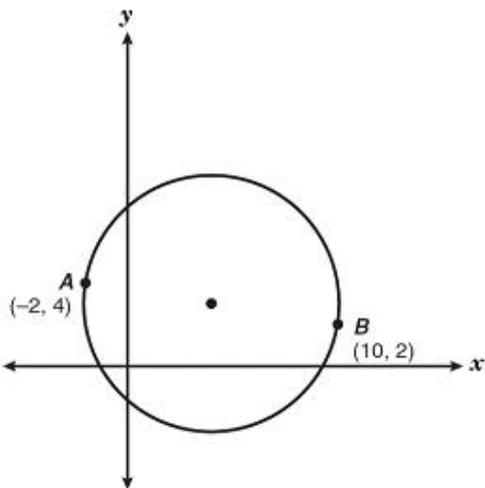
- $\frac{3}{2}n$   
  $n - 1$   
  $n^2 - 2n$   
  $\frac{n(n-1)}{2}$

83 A fence around a square garden has a perimeter of 48 feet. Find the approximate length of the diagonal of this square garden. [Use test tools](#) **Points: 1**

- 12 feet  
 17 feet  
 21 feet  
 24 feet

- 84 Megan is using an equilateral triangle as part of a design on a sweatshirt. Each side of the triangle is 12 [Use test tools](#) **Points: 1**  
 inches long. Megan is sewing a line of sequins from the midpoint of one side of this triangle to the opposite vertex. Approximately how long will the line of sequins be?
- 13.4 inches
  - 10.4 inches
  - 8.5 inches
  - 5.2 inches

- 85  $\overline{AB}$  is a diameter of the circle shown below. [Use test tools](#) **Points: 1**



Which is closest to the length of the radius of the circle?

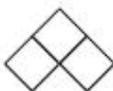
- 3.1 units
  - 4.3 units
  - 6.1 units
  - 12.2 units
- 86 Circle Q has diameter  $\overline{WY}$ . Point W is located at (3, -2), and point Y is located at (5, -6). Which of the following ordered pairs represents point Q, the center of the circle? [Use test tools](#) **Points: 1**
- (8, -8)
  - (4, -4)
  - (-1.5, -1.5)
  - (3, -6)

- 87 The first 4 stages of a geometric pattern are shown below. [Use test tools](#) **Points: 1**

Stage 1



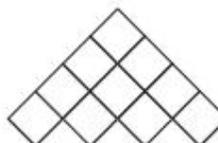
Stage 2



Stage 3



Stage 4



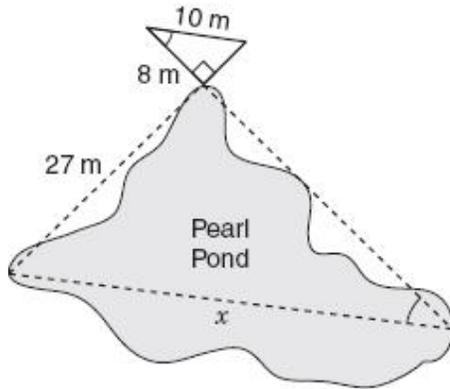
If each square represents 1 square unit, which expression can be used to determine the number of square units at Stage n?

- $(n+1)^2 - 3$   
  $2n - 1$   
  $\frac{n}{2}(n+1)$   
  $3(n-1)$

88 The drawing below can be used to find  $x$ , the width of Pearl Pond at its widest point.

[Use test tools](#)

Points: 1



What is the value of  $x$ ?

- 36 meters  
 34 meters  
 45 meters  
 22 meters

89 If  $B$  is the midpoint of  $\overline{AC}$  and  $D$  is the midpoint of  $\overline{AB}$  which one of the following conjectures is valid?

[Use test tools](#)

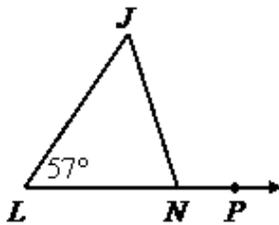
Points: 1

- $AC = 2AD$   
  $AD = \frac{1}{2}AC$   
  $AB = 2AD$   
  $AB = \frac{1}{2}BC$

90 Look at the diagram below

[Use test tools](#)

Points: 1



Which of the following relationships must be true?

- $m\angle JNP = 57^\circ$

- $m\angle JNL + 57^\circ = m\angle JNP$
- $m\angle NJL + 57^\circ = m\angle JNP$
- $m\angle JNP + m\angle JNL + 57^\circ = 180^\circ$

91 What is the slope of the line that contains the coordinate points  $(8, -3)$  and  $(-2, 7)$ ?

[Use test tools](#)

Points: 1

- $-1$
- $-\frac{9}{11}$
- $-\frac{5}{3}$
- $-\frac{2}{5}$

92 What is the slope of the line that contains the coordinate points  $(-5, 7)$  and  $(-9, 7)$ ?

[Use test tools](#)

Points: 1

- $-14$
- $-4$
- $0$
- undefined

93 What is the slope of the line that contains the coordinate points  $(-3, 6)$  and  $(-3, -6)$ ?

[Use test tools](#)

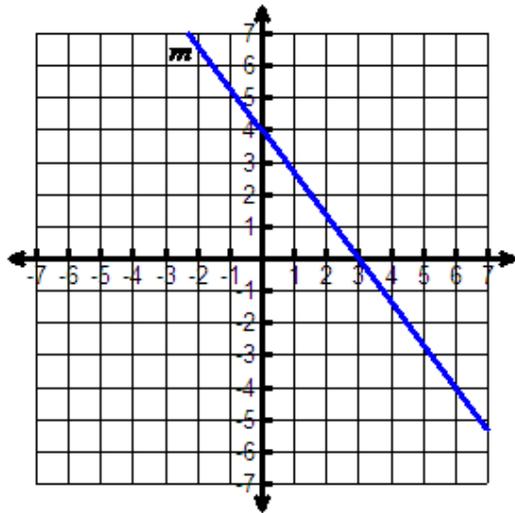
Points: 1

- $-12$
- $0$
- $2$
- undefined

94 Line  $m$  is graphed below.

[Use test tools](#)

Points: 1



$\overline{AB}$  has the same slope line  $m$ . Which of the following could be coordinates of  $A$  and  $B$ ?

- $(-1, 0)$  and  $(3, -3)$
- $(-4, 0)$  and  $(-1, -4)$
- $(-7, 0)$  and  $(-3, 3)$
- $(5, 0)$  and  $(8, 4)$

**95** The slope of  $\overline{PT}$  is  $\frac{2}{3}$ . The coordinates of point  $P$  are  $(-3, 2)$ . What could be the coordinates of point  $T$ ? [Use test tools](#) **Points: 1**

point  $T$ ?

- $(-1, 5)$
- $(6, 4)$
- $(0, 4)$
- $(0, 0)$

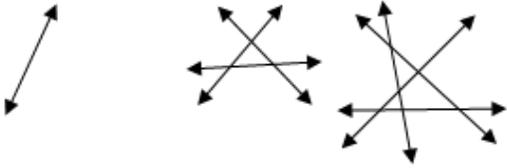
**96** The midpoint of  $\overline{AB}$  is  $M$ . If the coordinates of  $M$  are  $(-2, 1)$  and the coordinates of  $B$  are  $(1, 7)$ , what are the coordinates of  $A$ ? [Use test tools](#) **Points: 1**

- $(-5, -5)$
- $(4, 13)$
- $(-\frac{1}{2}, 4)$
- $(-5, 5)$

**97** Use the geometric and numeric pattern below to develop an algebraic expression to answer the following question. [Use test tools](#) **Points: 1**

If you draw 10 lines on a piece of paper so that no two lines are parallel to each other and no three lines are concurrent, how many times will they intersect?





Lines	1	2	3	4	5	$n$
# of times they will intersect	0	1	3	6	10	

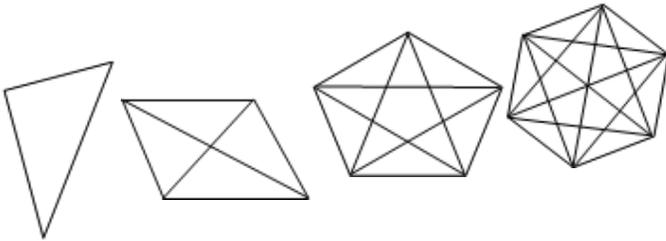
- $\frac{n(2n-2)}{2}$   
  $\frac{n(n-1)}{2}$   
  $\frac{(n-1)}{2}$   
  $2(n+1)-4$

**98** Use the geometric and numeric pattern below to develop an algebraic expression to answer the following question.

[Use test tools](#)

Points: 1

What is the total number of diagonals in a dodecagon?



Polygon	Triangle	Quadrilateral	Pentagon	Hexagon	$n$ -gon
Total # of diagonals	0	2	5	9	

- $2n-6$   
  $n(n-3)$   
  $\frac{n(n-3)}{2}$   
  $\frac{n(2n-6)}{2}$

**99** Develop an algebraic expression which can be used to find how many squares will be in the  $n$ th figure if [Use test tools](#)

Points: 1

the pattern below continues?



Figure 1

4 square units



Figure 2

7 square units

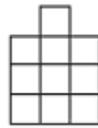


Figure 3

10 square units

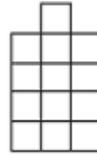


Figure 4

13 square units

- $4n$   
  $n+3$   
  $2n-1$   
  $3n+1$

**100** Which of the following is a counterexample for the statement:  
 “If two lines are perpendicular to the same line, they are always parallel to each other.”

[Use test tools](#)

Points: 1

- I. If two lines are perpendicular to the same line, they are skew to each other.  
 II. If two lines are perpendicular to the same line, they are perpendicular to each other.

- I only  
 II only  
 Both I and II

**101** Teresa claims that the exterior angle for any regular polygon is either an acute angle or an obtuse angle. If each of the following polygons is regular, which one could disprove Teresa’s theory?

[Use test tools](#)

Points: 1

- Triangle  
 Quadrilateral  
 Pentagon  
 Hexagon

**102** Ryan wrote the following conjecture:  
*The square of a number is always greater than or equal to the number.*  
 Which of the following examples disproves Ryan’s statement?

[Use test tools](#)

Points: 1

- A comparison of  $(-1.5)^2$  with  $-1.5$   
 A comparison of  $(-0.5)^2$  with  $-0.5$   
 A comparison of  $(0.5)^2$  with  $0.5$   
 A comparison of  $(1.5)^2$  with  $1.5$

**103** Which figure represents a counter example of the statement: "In every quadrilateral, opposite angles are congruent."?

[Use test tools](#)

Points: 1

- Rhombus  
 Rectangle  
 Parallelogram  
 Isosceles Trapezoid

[Use test tools](#)

- 104** Ronald claimed that any number that is divisible by 3 is also divisible by 6. Which of the following examples disproves Ronald's claim?

**Points: 1**

- 27
- 30
- 24
- 12

- 105** Conjecture: *The product of two positive numbers is greater than the sum of the two numbers.* Which of the following is a counter example of the conjecture?

[Use test tools](#)**Points: 1**

- I 1 and 4
- II 2 and 2
- III 3 and 4

- I only
- I and II
- II and III
- There is no counterexample. The conjecture is true.

- 106** The following statements are out of logical order:

[Use test tools](#)**Points: 1**

1. If a figure is a square, then it is a rectangle.
2. If a figure is a parallelogram, then it is a quadrilateral.
3. If a figure is a quadrilateral, then it is a polygon.
4. If a figure is a rectangle, then it is a parallelogram.

Which of the following lists the statements in correct logical order?

- 3,2,4,1
- 4,2,3,1
- 2,4,3,1
- 1,4,2,3

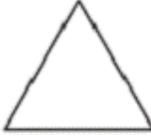
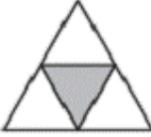
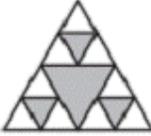
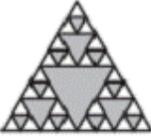
- 107** Andi is learning about special right triangles. She claims that if a right triangle has side lengths that are integers, then the mean of the lengths of the shortest side and the longest side is equal to the length of the remaining side. Which of the following examples disproves Andi's claim?

[Use test tools](#)**Points: 1**

- A triangle with side lengths of 39 units, 52 units, and 65 units.
- A triangle with side lengths of 10 units, 24 units, and 26 units.
- A triangle with side lengths of 18 units, 24 units, and 30 units.
- A triangle with side lengths of 6 units, 8 units, and 10 units.

- 108** According to the table, which expression best represents the number of white triangles at any stage,  $n$ , in this geometric pattern?

[Use test tools](#)**Points: 1**

Stage, $n$	Number of White Triangles	Diagram
1	1	
2	3	
3	9	
4	27	

- $(n-1)^{n-1}$
- $(2n-1)^2$
- $3^{n-1}$
- $n^2$

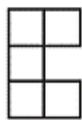
**109** The squares below are arranged in a sequence to show a pattern.

[Use test tools](#)

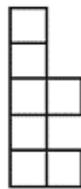
Points: 1



Stage 1



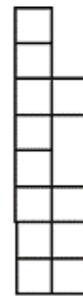
Stage 2



Stage 3



Stage 4



Stage 5

The table below shows the perimeter of each figure formed by the squares in the five pattern stages.

Stage, $n$	Perimeter, $P$ (units)
1	8
2	12
3	16
4	20
5	24

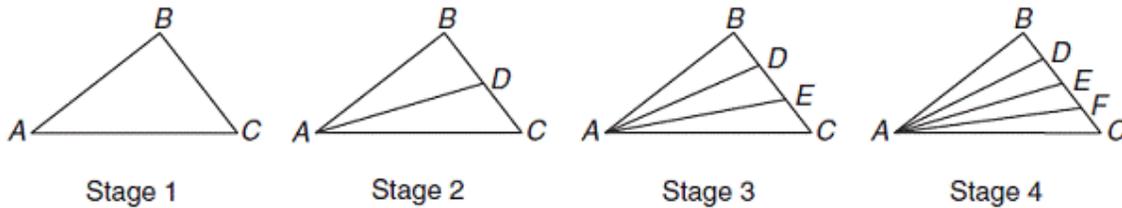
Each side of a square represents 1 unit. If this pattern were to continue, which expression could be used to determine the perimeter of the figure at stage  $n$  ?

- $n^2 + 7$   
  $2(n^2 + 3)$   
  $4(n + 1)$   
  $-2(n - 1) + 8n$

110 Look at the figures and the table below.

[Use test tools](#)

Points: 1



Stage	Number of Triangles
1	1
2	3
3	6
4	10

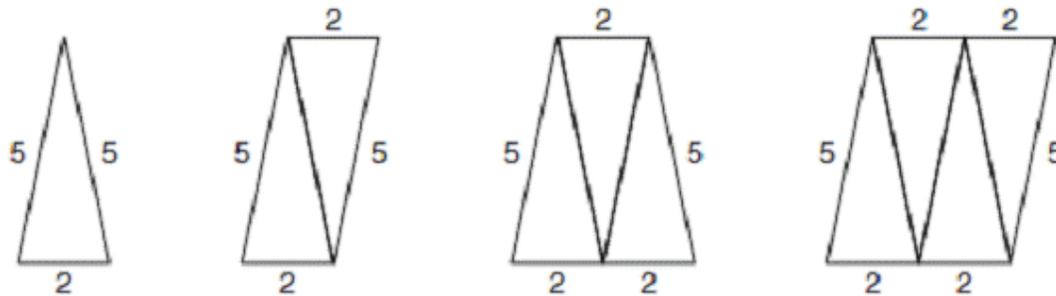
How many triangles will the  $n$ th stage contain?

- $2^n - 1$   
  $\frac{n^2 + n}{2}$   
  $2n - 1$   
  $\frac{n^2 + 2}{2}$

111 Below are congruent isosceles triangles arranged in a sequence to obtain a geometric pattern:

[Use test tools](#)

Points: 1



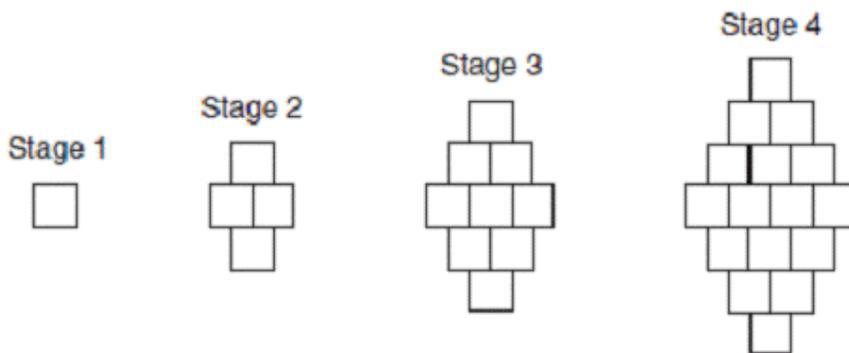
Which expression can be used to find the perimeter of a composite figure made up of  $t$  triangles arranged in this pattern?

- $12t$
- $2t + 10$
- $5t + 2$
- $12t - 5$

**112** The blocks below are arranged in sequence to show a pattern.

[Use test tools](#)

Points: 1



Which expression can be used to determine the number of blocks at Stage  $n$ ?

- $\sqrt{n}$
- $n^2$
- $2n$
- $(n-1)+1$

**113** "Two lines in a plane always intersect in exactly one point."

[Use test tools](#)

Points: 1

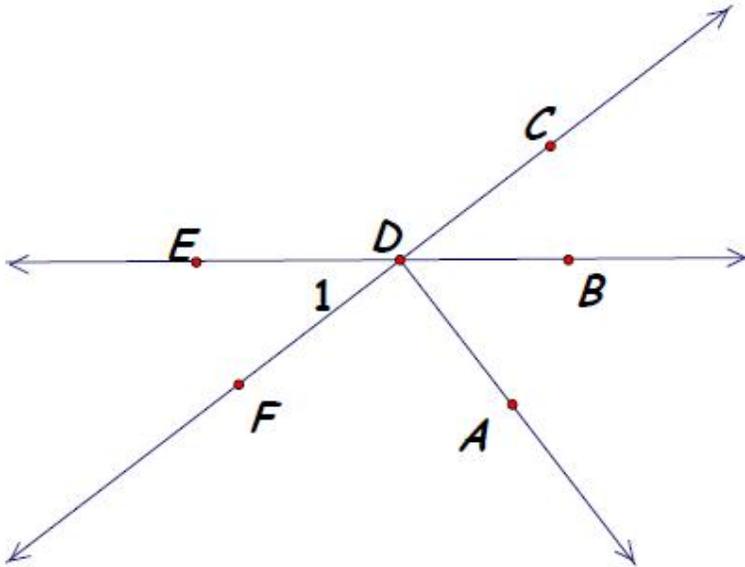
Which of the following best describes a *counterexample* to the assertion above?

- coplanar lines
- parallel lines
- intersecting lines
- perpendicular lines

**114** In the figure below:  $\overrightarrow{AD} \perp \overleftrightarrow{FC}$ ,  $\overleftrightarrow{EB}$  is an angle bisector of  $\angle CDA$ .

[Use test tools](#)

Points: 1



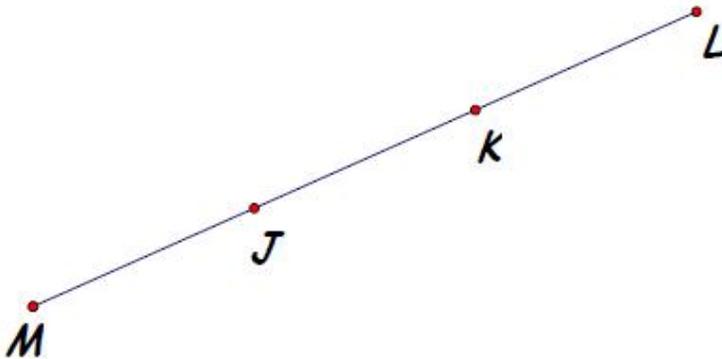
Which of the following statements is true?

- $m \angle ADF = m \angle FDE$
- $m \angle EDF = m \angle BDA$
- $m \angle CDB = \frac{1}{2} m \angle BDA$
- $2m \angle FDE = m \angle EDC$

- 115**  $J$  is the midpoint of  $\overline{MK}$ ,  
 $K$  is the midpoint of  $\overline{JL}$ .

[Use test tools](#)

Points: 1



Which of the following is true?

- $JK = 2LM$

$KL = \frac{1}{2}JM$

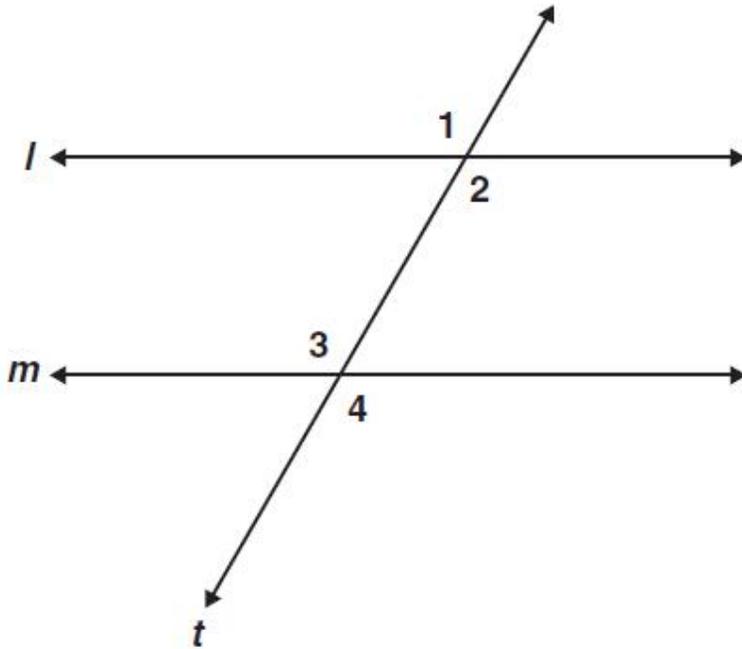
$JK = KM$

$KL = JM$

**116** In the diagram below  $\angle 1 \cong \angle 4$ .

[Use test tools](#)

Points: 1



Which of the following does not have to be true?

$l \parallel m$

$m \angle 3 + m \angle 4 = 180$

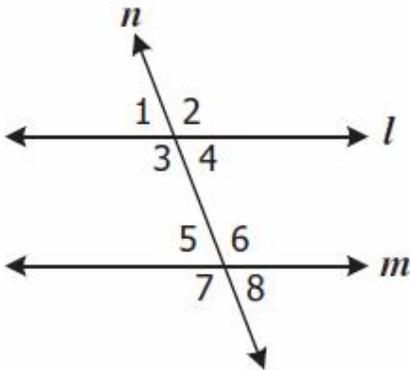
$m \angle 1 = m \angle 3$

$m \angle 2 = m \angle 3$

**117** Lines  $l$  and  $m$  are cut by transversal  $n$ .

[Use test tools](#)

Points: 1



Which statement would prove  $l \parallel m$ ?

$m \angle 7 + m \angle 8 = 180^\circ$

$m \angle 3 + m \angle 5 = 90^\circ$

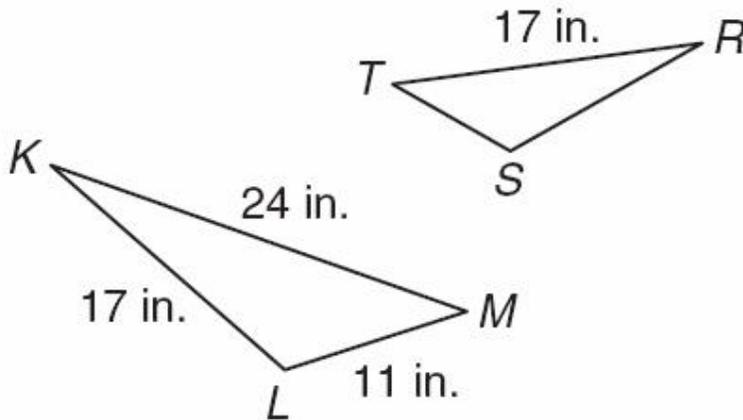
$m \angle 2 = m \angle 3$

$m \angle 2 = m \angle 6$

118  $\triangle KLM \sim \triangle RST$ , what is the perimeter of  $\triangle RST$  to the nearest inch?

[Use test tools](#)

Points: 1



37 inches

52 inches

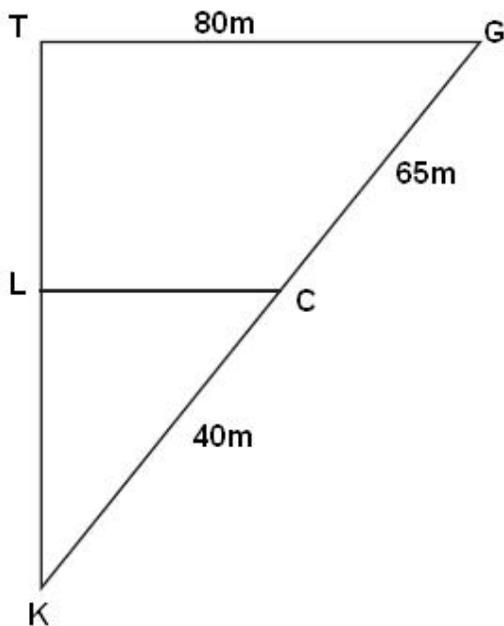
41 inches

48 inches

119 If  $\triangle KLC \sim \triangle KTG$ , how long is segment LC?

[Use test tools](#)

Points: 1

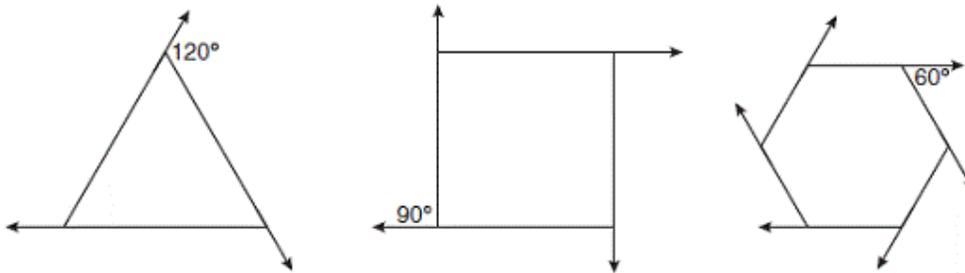


- 30.5 meters
- 49.5 meters
- 130 meters
- 40 meters

**120** The measure of an exterior angle is shown for each of three regular polygons below.

[Use test tools](#)

**Points: 1**



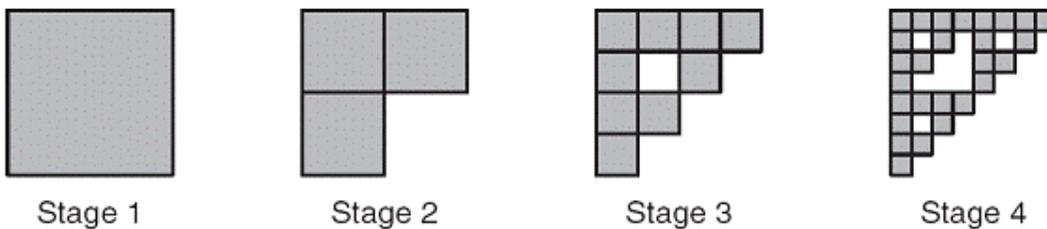
Which expression best represents the measure in degrees of an exterior angle of a regular polygon with  $n$  sides?

- $30(n+1)$
- $\frac{360}{n}$
- $\frac{n(n-2)}{30(n-1)}$
- $\frac{360}{n}$

**121** The first 4 stages of certain fractal are shown below.

[Use test tools](#)

**Points: 1**



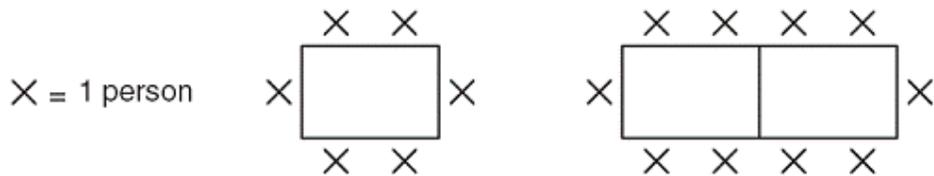
In each stage after the first, each square is divided into 4 squares, and then the bottom right square is removed. If the pattern continues, which expression can be used to find the number of shaded square units Stage  $N$  contains?

- $3N$
- $N^3$
- $3^N$
- $3^{N-1}$

**122** For a sports banquet Coach Mackey must use the rectangular tables in the school cafeteria. The diagram below shows the seating arrangements that Coach Mackey can use at 1 and 2 tables.

[Use test tools](#)

**Points: 1**



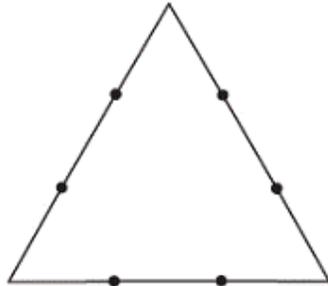
Which expression can be used to determine the number of people who can sit as a group if  $y$  tables are joined to form 1 long table?

- $6y$   
  $3(y+1)$   
  $4(y+1)$   
  $2(2y+1)$

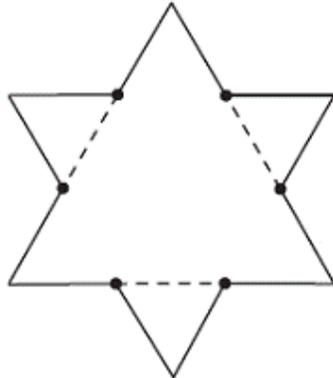
**123** A student begins drawing a fractal by dividing each side of an equilateral triangle into 3 segments.

[Use test tools](#)

Points: 1



The student then replaces the middle segments with 2 equal segments to form the sides of smaller equilateral triangles.



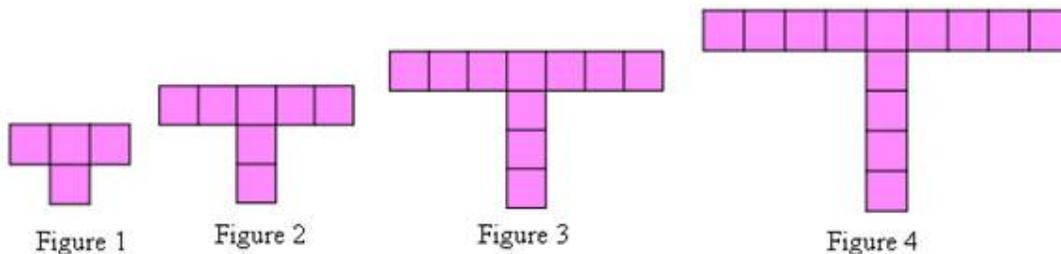
If the student repeats this process on the 12 sides of the second figure, the third figure will have 48 sides. Which expression can be used to determine the number of sides the  $n$ th figure will have?

- $4n$   
  $3^n$   
  $3 \cdot 4^{n-1}$   
  $3 + 4^{n-1}$

**124** The tiles below are arranged in a sequence to show a pattern

[Use test tools](#)

Points: 1



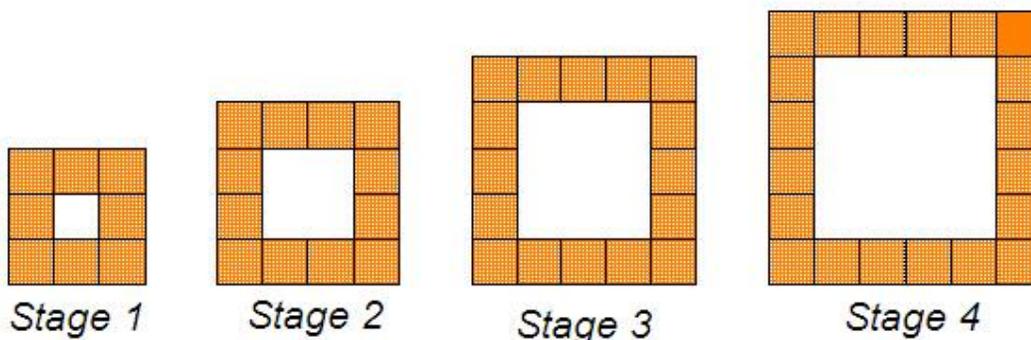
Which expression represents the number of tiles in the  $n$ th figure?

- $n + 3$
- $3n + 1$
- $2(n + 2)$
- $3n$

**125** The shaded squares below are arranged in a sequence to show a pattern.

[Use test tools](#)

Points: 1



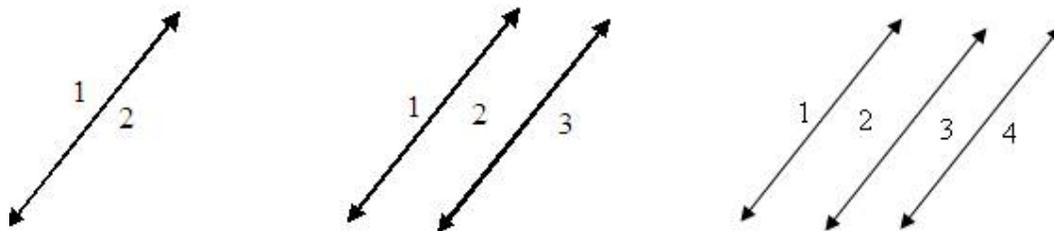
If the pattern continues, which expression can be used to find the number of shaded squares in the  $n$ th Stage?

- $n + 4$
- $4(n + 1)$
- $4n + 1$
- $2(n + 3)$

**126** Lines in a plane divide the plane into parts.

[Use test tools](#)

Points: 1



Which expression can be used to find the number of parts the plane is divided by  $n$  lines.

- $n^2$
- $2n$
- $n + 1$
- $2(n + 1)$

**127** The slope of  $\overleftrightarrow{RS}$  is zero and does not pass through the origin. Which conclusion is valid?

[Use test tools](#)

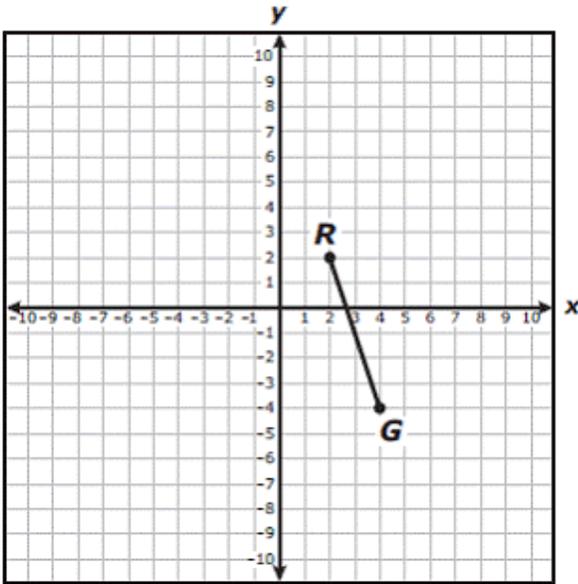
Points: 1

- $\overleftrightarrow{RS}$  is vertical
- $\overleftrightarrow{RS}$  is horizontal
- $\overleftrightarrow{RS}$  has an x-intercept
- $\overleftrightarrow{RS}$  has an undefined slope

128  $\overline{RG}$  is graphed on the coordinate grid below.

[Use test tools](#)

Points: 1

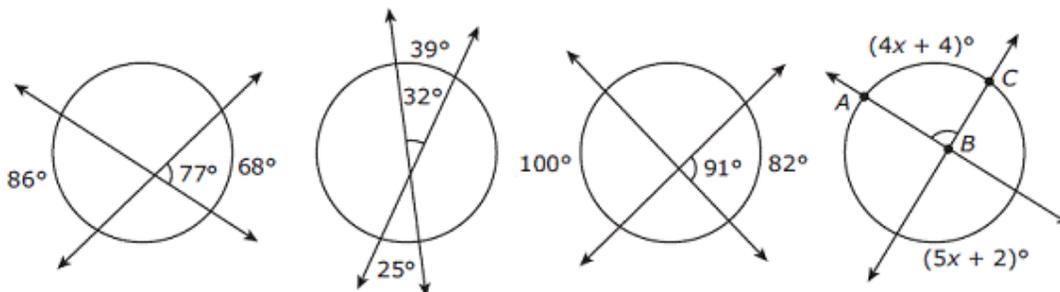


Which of the following equations best represents the perpendicular bisector of  $\overline{RG}$ ?

- $y = \frac{1}{3}x - 2$
- $y = -3x + 8$
- $y = 3x - 10$
- $y = -\frac{1}{3}x + 1$

129 In each of the circles below, four angles are formed by the intersection of 2 secant lines. The measures [Use test tools](#) of two intercepted arcs and one angle are shown for the first three circles.

Points: 1



Which expression can be used to represent  $m\angle ABC$  in degrees?

- $\frac{1}{2}[(5x+2)-(4x+4)]$
- $\frac{1}{2}[(5x+2)+(4x+4)]$
- $2[(5x+2)-(4x+4)]$
- $2[(5x+2)+(4x+4)]$

- 130** Given: M is between R and P.  
Which of the following must be true?

[Use test tools](#)

Points: 1

- $\frac{1}{2}RM = RP$
- $RM = MP$
- $RM + MP = RP$
- $MR + RP = MP$

- 131** Which of the following transformations would make this statement false when placed in the blank?

[Use test tools](#)

Points: 1

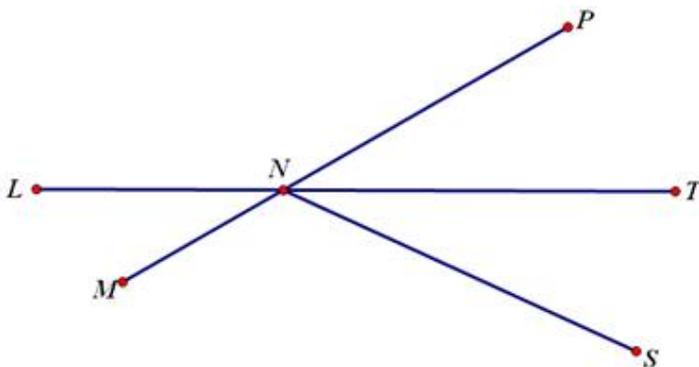
If I \_\_\_\_\_ a triangle, then the image is congruent to the pre-image.

- reflect
- rotate
- translate
- dilate

- 132**  $\overline{NT}$  bisects  $\angle PNS$ . Which of the following is a true statement?

[Use test tools](#)

Points: 1



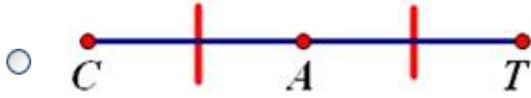
- $m\angle PNS = 45$
- $\angle PNS \cong \angle PNT$
- $\angle TNS \cong \angle LNM$
- $m\angle PNT + m\angle TNS = 180$

- 133** Which of the diagrams below provides a counterexample to the following conditional statement?

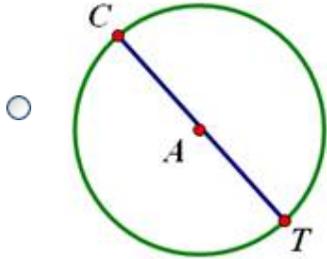
[Use test tools](#)

Points: 1

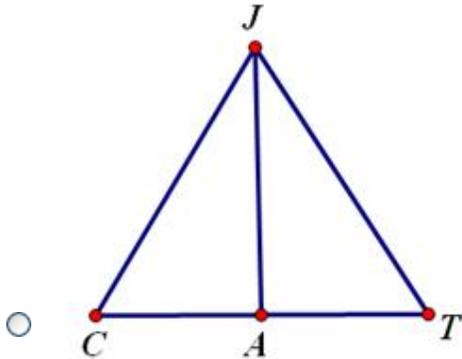
If  $CA = AT$ , then  $A$  is the midpoint of  $CT$ .



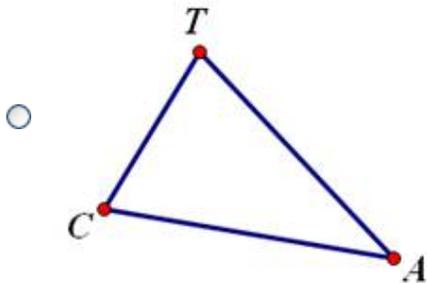
In Circle  $A$ ,  $\overline{CT}$  is a diameter.

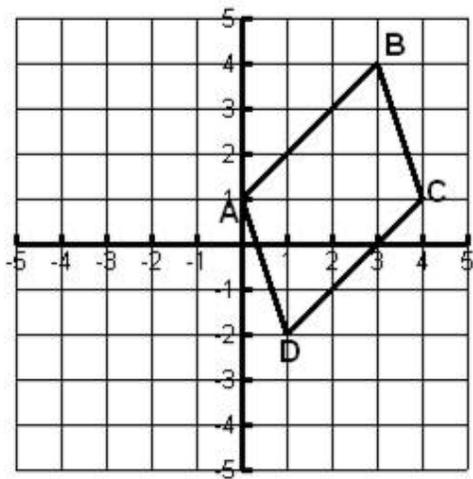


In  $\triangle CJT$ ,  $\overline{JA}$  bisects  $\overline{CT}$ .



$\triangle CAT$  is isosceles with vertex angle A.





Which equation represents a line perpendicular to  $\overline{BC}$ ?

- $y = -\frac{1}{3}x + 2$
- $y = \frac{1}{3}x + 1$
- $y = 3x + 1$
- $y = -3x + 2$

- 135 Jerry graphed two parallel lines on a coordinate grid. If the equation of one of the lines is  $2x + y = -3$ , what would be the equation of a line parallel to this line?

[Use test tools](#)

Points: 1

- $y = 2x - 12$
- $y = -2x + 12$
- $x + 2y = 3$
- $-2x + y = 3$

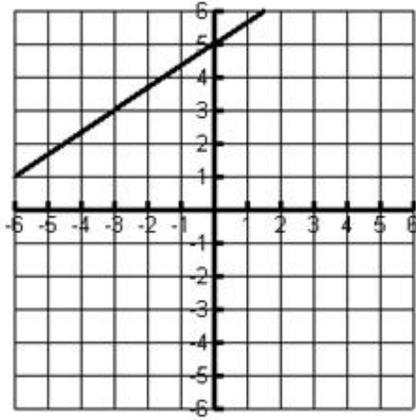
- 136 Which of the following is a representation of a line parallel to the line whose equation is:

[Use test tools](#)

Points: 1

$$y - 3 = \frac{2}{3}(x - 4)$$

|



II

X	Y
3	4
0	2
-3	0

III

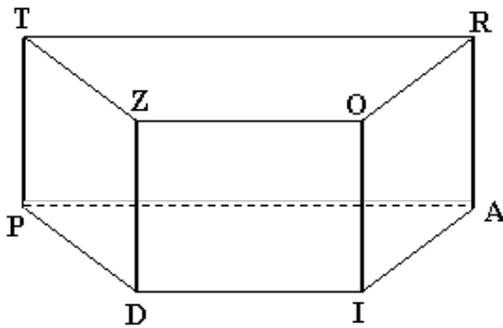
$$2x + 3y = 1$$

- I and II
- II and III
- I and III
- I, II, and III

137 Look at the figure below.

[Use test tools](#)

Points: 1



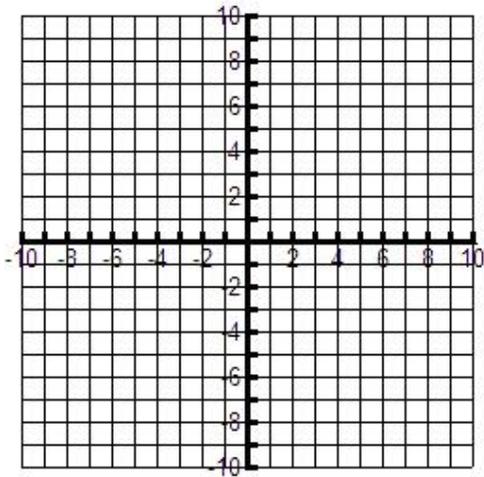
Which one of the following conjectures is true based on the diagram?

- $\overline{RA}$  and  $\overline{TZ}$  are skew
- $\overline{AI}$  is parallel to Plane  $DOZ$
- The four points  $P, D, I, R$  are coplanar
- Plane  $PDA$  and Plane  $TRA$  intersect in  $\overline{RA}$

138  $\overrightarrow{EF}$  has endpoint  $E(0,3)$  and contains  $F(-4,9)$ . Which of the following are possible coordinates [Use test tools](#)

Points: 1

for point D so that  $\overrightarrow{EF}$  and  $\overrightarrow{ED}$  are opposite rays?

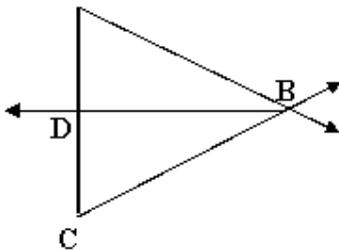


- (0,2)
- (2,6)
- (2,0)
- (-2,6)

139  $\angle A \cong \angle C$  in the diagram below:

[Use test tools](#)

Points: 1



Which one of the following conclusions is valid?

- $\overline{AB} \cong \overline{BC}$
- $\overline{AD} \cong \overline{CD}$
- $\angle ABD \cong \angle CBD$
- $\angle ADB \cong \angle CDB$

140 What is the slope of the line containing points  $(-2,5)$  and  $(-3,-4)$ ?

[Use test tools](#)

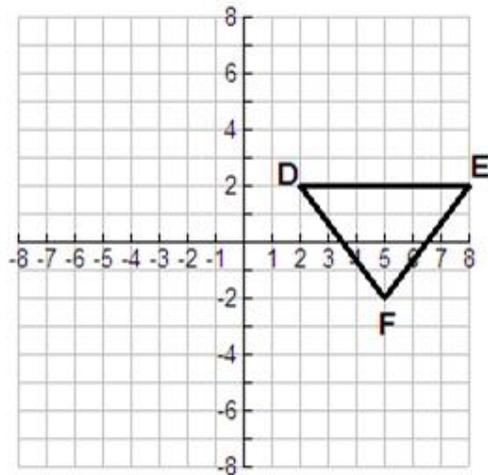
Points: 1

- $\frac{1}{9}$
- $\frac{9}{5}$
- 9
- 9

141 What is the perimeter of  $\triangle DEF$  shown in the graph below?

[Use test tools](#)

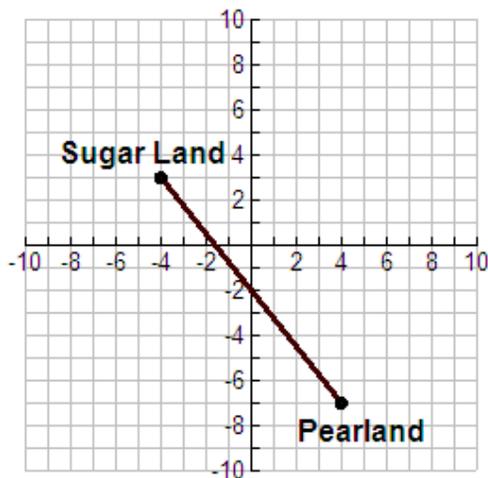
Points: 1



- 5 units
- 11 units
- 14 units
- 16 units

142 A coordinate grid is placed over a map. What is the distance between Sugar Land and Pearland on this map? Round your answer to the nearest hundredth. [Use test tools](#)

Points: 1



- 12.81 units
- 10.00 units
- 8.94 units
- 9.17 units

143 Given:  $\overline{DB}$  is the perpendicular bisector of  $\overline{AC}$   
 $A, B, \& C$  are collinear

[Use test tools](#)

Points: 1

Based on the given information, which of the following statement(s) are true?

$\overline{AB} \cong \overline{BC}$

II  $\overline{AB} \cong \overline{DB}$

III  $\angle DBA$  and  $\angle DBC$  are  $\cong$  and supplementary

- I only  
 I & III  
 I & II  
 II & III

144 Given  $\overline{PQ}$  with the midpoint  $M(2,-3)$  and the endpoint  $Q(-5,1)$ , what are the coordinates of  $P$ ?

[Use test tools](#)

Points: 1

- $(-1\frac{1}{2}, -1)$   
  $(-12, 5)$   
  $(9, -7)$

145 **Conjecture:** Quadrilateral QRST is a rectangle.

[Use test tools](#)

Points: 1

Which of the following equations could be used to form the sides of quadrilateral QRST to justify this conjecture?

<input type="radio"/>	$\overline{QR}$ $y = \frac{3}{4}x$	$\overline{RS}$ $y = \frac{4}{3}x + 3$	$\overline{ST}$ $y = \frac{3}{4}x - 2$	$\overline{TQ}$ $y = \frac{4}{3}x$
<input type="radio"/>	$\overline{QR}$ $y = \frac{3}{4}x$	$\overline{RS}$ $y = -\frac{4}{3}x + 2$	$\overline{ST}$ $y = \frac{3}{4}x - 2$	$\overline{TQ}$ $y = -\frac{4}{3}x - 5$
<input type="radio"/>	$\overline{QR}$ $y = \frac{3}{4}x$	$\overline{RS}$ $y = \frac{3}{4}x + 2$	$\overline{ST}$ $y = \frac{3}{4}x - 2$	$\overline{TQ}$ $y = \frac{3}{4}x - 5$