

1. Find the midpoint of the line segment connecting the pair of points (3, -10) and (3, 6).

$(3, -2)$

2. Points A, B, and C are collinear. Point B is between A and C. $AB = x + 1$ $BC = 3x$ $AC = 19$

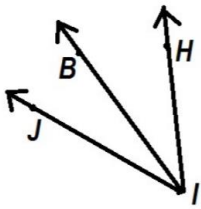
Find the value of x. $x = 4.5$

3. What is the distance between the points (8, -2) and (8, -5)? 3

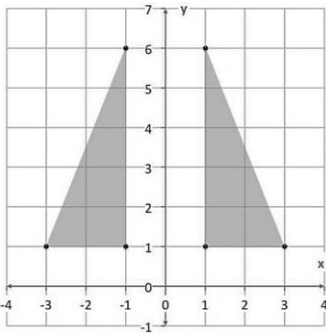
4. Find the midpoint of the line segment connecting the pair of points (10, 2) and (8, 6). $(9, 4)$

5. Find $m \angle JIH$ if $m \angle JIB = 65^\circ$ and $m \angle BIH = 60^\circ$.

125°



6. The triangles shown are the result of a reflection. What is the equation of the line of reflection? $x = 0$



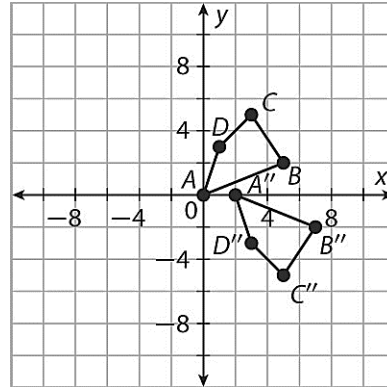
7. What is the distance between the points (7, 4) and (-3, 6)? $\sqrt{104} = 2\sqrt{26}$

8. Points A, B, and C are collinear. Point B is between A and C. $AB = 3x + 7$ $AC = 34$ $BC = x + 7$

Find the value of x. $x = 5$

9. Triangle ABC is translated along vector $\langle 7, -3 \rangle$ to create the image $A'B'C'$. What are the coordinates of the vertex A' ? $A(6, 4)$ $B(2, 1)$ $C(2, 4)$ $(13, 1)$

10. Describe one of the two rules that maps the preimage to its image in the picture below.

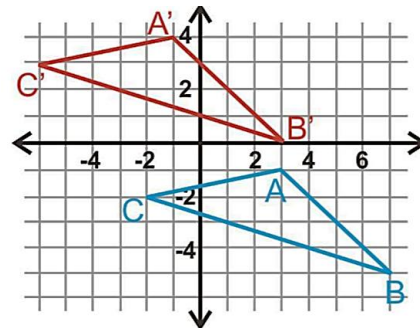


Translation $\langle 1, 0 \rangle$

Reflection over x -axis

$(x, y) \rightarrow (x, -y)$

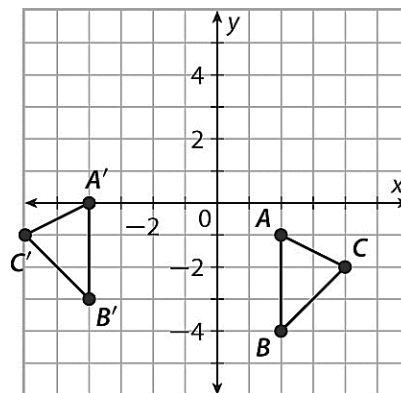
11. Describe the translation which maps the preimage into the image in the picture below.



$\langle -4, 5 \rangle$

$(x, y) \rightarrow (x - 4, y + 5)$

12. Describe the rule that maps the preimage to its image in the picture below.



$(x, y) \rightarrow$

$(x + 2, y + 1) \rightarrow$

$(-x, y)$

13. If the figure has rotational symmetry, what is the smallest positive angle of rotation? 72°



14. How many degrees are in a 11-sided polygon?

1620°

15. How many lines of symmetry does the object have?

0

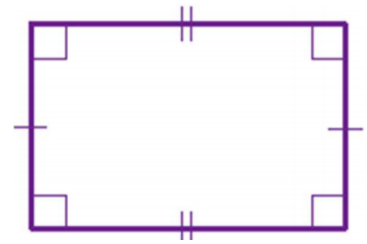


16. How many sides are on a polygon with an angle sum of 5040° ?

30

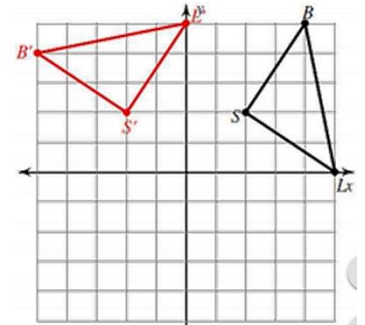
17. How many lines of symmetry does the object have?

2



18. Describe the transformation.

Rotation 90° (counterclockwise) or 270° clockwise

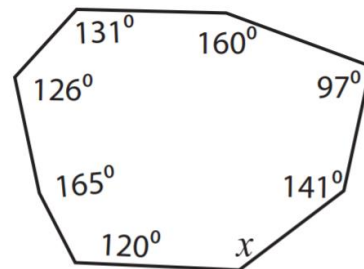


19. Given $\triangle CBA \cong \triangle HKI$, find the value of x if

$$CA = 2x + 19 \text{ and } HI = 3x - 11$$

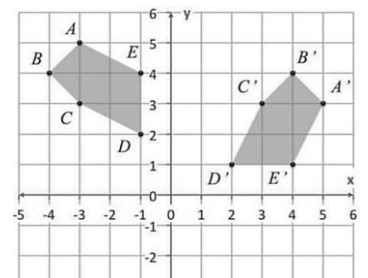
$$x = 30$$

20. Find x . 140°

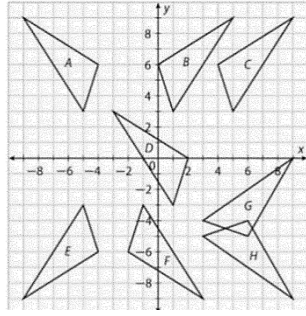


21. Describe the transformation.

Rotation 270° (counterclockwise) or 90° clockwise



22. Which figure is the reflection of figure E over the x-axis? **A**



23. Given $\triangle XYZ \cong \triangle JKL$. Find the values of x if $m\angle Y = (3x+19)^\circ$ and $m\angle K = (7x+3)^\circ$.

$$x = 4$$

24. The measure of angle A is 85° . Which angle has the smallest measurement? **B**

- A) an angle congruent to angle A
- B) the complement of the angle A
- C) the angle A
- D) the supplement of the angle A

25. Given that two angles are a linear pair, they must also be supplements. **A**

- A) True
- B) False

26. Two angles are complements. The smaller angle is half the size of the larger angle. What is the measure of the larger angle? **60°**

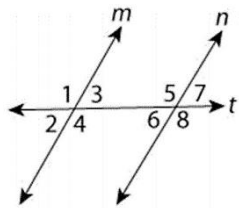
27. Two vertical angles are _____ congruent? **A**

- A) Always
- B) Sometimes
- C) Never

28. Two angles are complementary. One of the angles is 9 times larger than the other. What is the measure of the smaller angle? **9°**

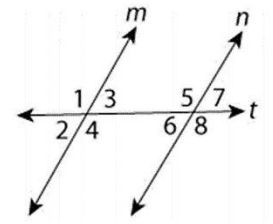
29. Angle 1 and angle 8 are what type of angle pair?

Alternate exterior angles



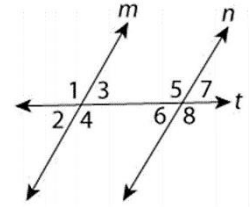
30. Angle 7 and angle 6 are what type of angle pair?

Vertical angles

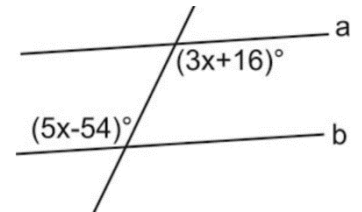


31. Angle 4 and angle 6 are what type of angle pair?

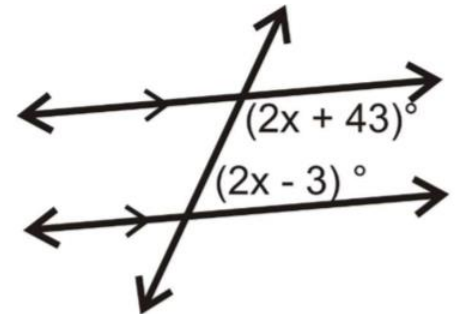
Same-side interior



32. Find the value of x if $a \parallel b$. **$x = 35$**

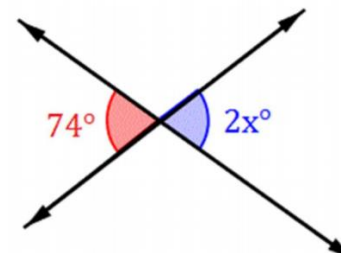


33. Find the value of x . **$x = 35$**

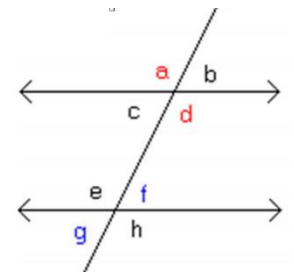


34. Find the value of x .

$$x = 37$$



35. Angle b and what other angle are alternate exterior angles? **g**



36. Through a point P not on line t, there is exactly 1 line _____ to line t. **C**

- A) adjacent B) equidistant
C) perpendicular D) None of these

37. If a figure in quadrant II is rotated 1890° , in which quadrant does it end up?

III

38. Two planes intersect at a _____. **B**

- A) point B) line
C) plane D) None of these

39. A right triangle has a leg with a length of 6 inches and hypotenuse with a length of 8 inches. What is the length of the other leg? $\sqrt{28} = 2\sqrt{7}$ inches

40. A right triangle has legs with a length of 7 inches. What is the length of the hypotenuse?

$$\sqrt{98} = 7\sqrt{2}$$

41. Which of the sets of numbers below does not form a Pythagorean triple? **C**

- A) 6, 8, 10 B) 3, 4, 5
C) 3, 3, 3 D) 5, 12, 13

42. Find the equation of a line in slope intercept form which is perpendicular to the line $y = -2x + 1$

and contains the point (2, 3). $y = \frac{1}{2}x + 2$

43 Find the equation of a line in slope intercept form which is parallel to the line $y = -3x - 1$ and contains the point (2, 7). $y = -3x + 13$

44. Find the equation of a line in slope intercept form which is parallel to the line $y = 0$ and contains the point (6, 3). $y = 3$

45. Find the equation of a line in slope intercept form which is perpendicular to the line $y = 2x$ and contains the point (4, 1).

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

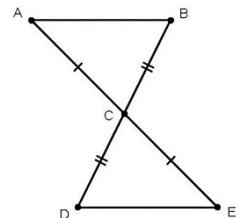
46. Statements	Reasons
$5(x + 4) = 60$	Given
$5x + 20 = 60$	Distributive Property
$5x = 40$	(1)
$x = 8$	(2)

Select the best pair of Reasons to fill in the blanks. **A**

- A) (1) Subtraction property of equality (2) Division Property of Equality
B) (1) Distributive Property (2) Multiplication Property of Equality
C) (1) Subtraction Property of Equality (2) Symmetric Property of Equality
D) None of the above

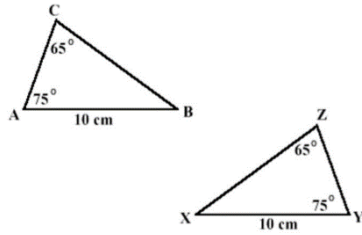
47. Which theorem or postulate would be used to prove triangle congruence for the triangles shown below? **B**

- A) SSS B) SAS
C) ASA D) AAS

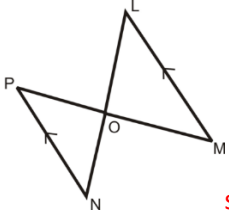


48. Which theorem or postulate would be used to prove triangle congruence for the triangles shown below? **D**

- A) SSS B) SAS
C) ASA D) AAS



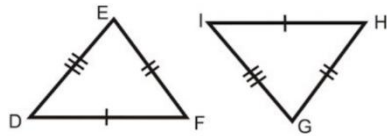
49. In order to use the ASA Congruence Theorem, which additional piece of information would be needed? **$\overline{PN} \cong \overline{ML}$ or $\overline{PO} \cong \overline{MO}$ or $\overline{ON} \cong \overline{OL}$**



since all angles are congruent

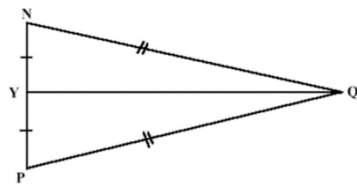
50. Which theorem or postulate would be used to prove triangle congruence for the triangles shown below? **A**

- A) SSS B) SAS
C) ASA D) AAS

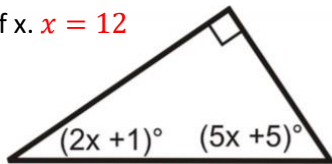


51. True or False - The Hypotenuse-Leg Congruence Theorem could be used to prove that these are congruent triangles. **B**

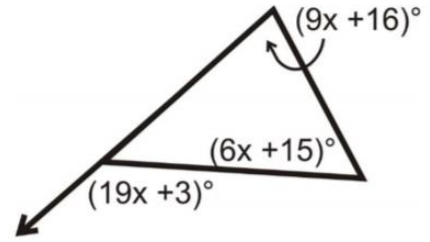
- A) True B) False



52. Find the value of x. **$x = 12$**

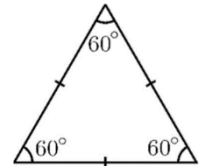


53. Find the measure of the exterior angle. **136°**

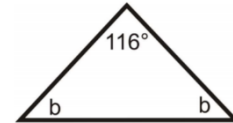


54. Name the triangle **D**

- A) Equilateral B) Equiangular
C) Regular D) All of the above

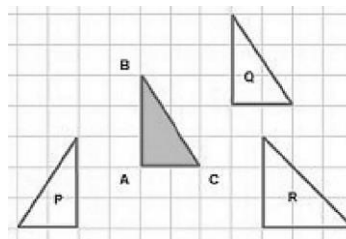


55. Solve for b: **$b = 32^\circ$**



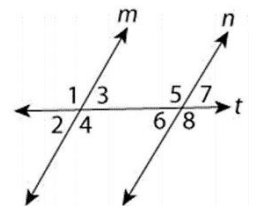
56. Describe the translation which maps the preimage $\triangle ABC$ into the image Q in the picture below. **C**

- A) $(x, y) \rightarrow (x + 3, y - 2)$
B) $(x, y) \rightarrow (x - 2, y - 2)$
C) $(x, y) \rightarrow (x + 3, y + 2)$
D) $(x, y) \rightarrow (x + 5, y - 2)$



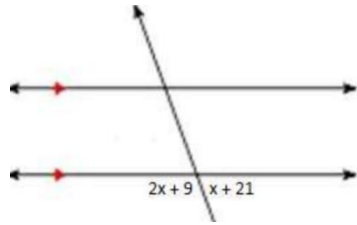
57. Angle 2 and angle 4 are what type of angle pair?

Linear Pair



58. Find the value of x .

$x = 50$



59. Line a contains the points $(-3, 2)$ and $(-1, 6)$.

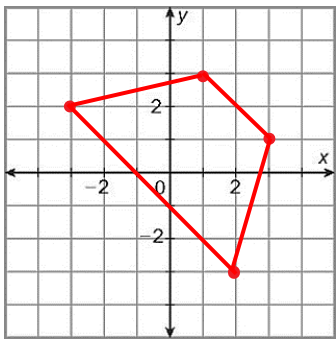
Line b contains the points $(-3, 7)$ and $(-2, -5)$.

What do you know about line a and b ?

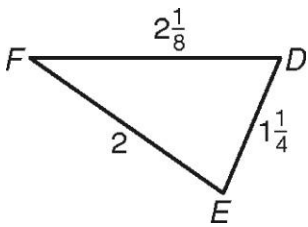
They are neither parallel nor perpendicular

60. What is the most precise name of the shape with the given vertices? **Isosceles trapezoid**

$A(-3, 2)$, $B(1, 3)$, $C(3, 1)$, $D(2, -3)$



61. Arrange the angle measures of the triangle from least to greatest. $\angle F, \angle D, \angle E$

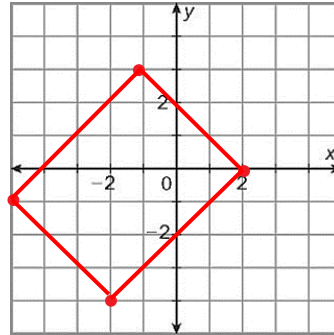


62. A triangle has side lengths 7 and 15. What are the possible side lengths for the third side?

$8 < x < 22$

63. What is the most precise name of the shape with the given vertices? **rectangle**

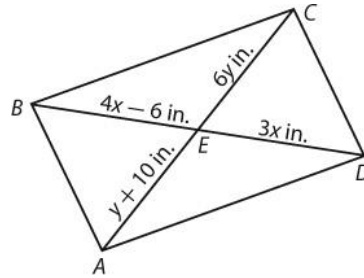
$A(-1, 3)$, $B(2, 0)$, $C(-2, -4)$, $D(-5, -1)$



64. $ABCD$ is a parallelogram. Find BD and AC .

$x = 6, y = 2$

, $BD = 36 \text{ in}, AC = 24 \text{ in}$



65. Find the value of n so that trapezoid $PQRS$ is isosceles.

$10n + 19 = 12n - 4 \quad n = 11.5$

