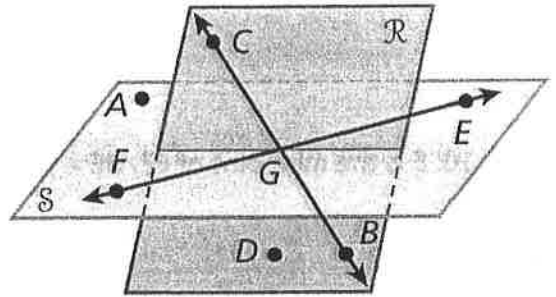


Geometry Chapter 1 Review

Lesson 1.1: Geometry Foundations



1. Name 3 collinear points on plane \mathcal{R} .

C, G, B

2. Give another name for plane \mathcal{S} .

Plane AGF , Plane EGA

3. Name the intersection of line BC and Plane \mathcal{S} .

point G

4. Name a ray with endpoint E .

\overrightarrow{EG} or \overrightarrow{EF}

Lesson 1.2: Measuring and Constructing Segments

5. Find each length.

a. JL

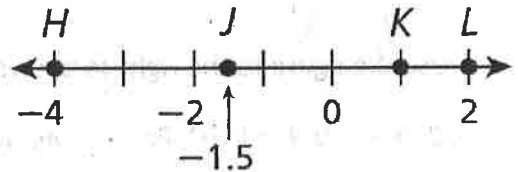
$$JL = |-1.5 - 2| = |-3.5| = 3.5$$

$$JL = 3.5$$

b. HK

$$HK = |1 - (-4)|$$

$$HK = |5| = 5$$



6. S is between R and T . Find RT .

$$RS + ST = RT$$

$$5x - 6 + 2x = 3x + 2$$

$$7x - 6 = 3x + 2$$

$$\frac{-3x}{-3x} \quad \frac{-3x}{-3x}$$

$$4x - 6 = 2$$

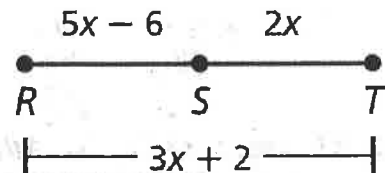
$$4x - 6 = 2$$

$$\frac{+6}{+6} \quad \frac{+6}{+6}$$

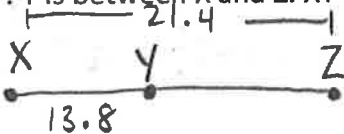
$$\frac{4x}{4} = \frac{8}{4}$$

$$x = 2$$

$$RT = 3(2) + 2 = 8$$



7. Y is between X and Z . $XY = 13.8$, and $XZ = 21.4$. Find YZ .



$$XY + YZ = XZ$$

$$13.8 + YZ = 21.4$$

$$\frac{-13.8}{-13.8} \quad \frac{-13.8}{-13.8}$$

$$YZ = 7.6$$

8. Q is between P and R . Find PR .

$$PQ + QR = PR$$

$$3x + 6x + 4 = 14x - 6$$

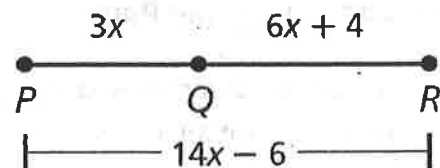
$$9x + 4 = 14x - 6$$

$$\frac{-9x}{-9x} \quad \frac{+6}{+6} \quad \frac{-9x}{-9x} \quad \frac{+6}{+6}$$

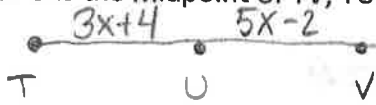
$$\frac{10}{5} = \frac{5x}{5} \quad 2 = x$$

$$PR = 14(2) - 6 = 28 - 6$$

$$PR = 22$$



9. U is the Midpoint of TV, $TU = 3X + 4$, and $UV = 5X - 2$. Find TU, UV, and TV.



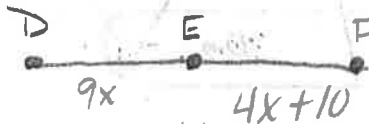
$$\begin{aligned} TU &= UV \\ 3x+4 &= 5x-2 \\ -3x+2 & \quad -3x+2 \\ \hline 6 &= 2x \\ \frac{6}{2} &= \frac{2x}{2} \\ 3 &= x \end{aligned}$$

$$TU = 3(3) + 4 = 13$$

$$UV = 5(3) - 2 = 13$$

$$TV = 13 + 13 = 26$$

10. E is the midpoint of DF, $DE = 9X$, and $EF = 4X + 10$. Find DE, EF, and DF.



$$\begin{aligned} DE &= EF \\ 9x &= 4x+10 \\ -4x & \quad -4x \\ \hline 5x &= 10 \\ \frac{5x}{5} &= \frac{10}{5} \\ x &= 2 \end{aligned}$$

$$DE = 9(2) = 18$$

$$EF = 4(2) + 10 = 18$$

$$DF = 18 + 18 = 36$$

Lesson 1.3 - Measuring Angles

11. Classify each angle as acute, right, or obtuse.

a. $\angle XYW$

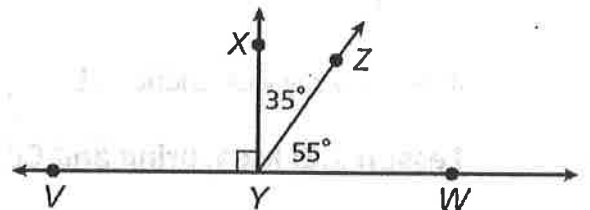
Right
 90°

b. $\angle ZYV$

Obtuse
 125°

c. $\angle XYZ$

Acute
 35°



Use the figure to the right to answer 12.

12. If $m\angle HJL = 116^\circ$, find the $m\angle HJK$.

$$m\angle HJK + m\angle KJL = m\angle HJL$$

$$13x + 20 + 10x + 27 = 116$$

$$23x + 47 = 116$$

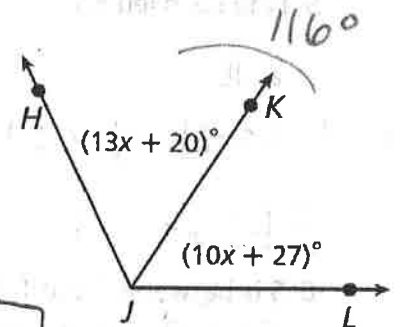
$$-47 \quad -47$$

$$23x = 69$$

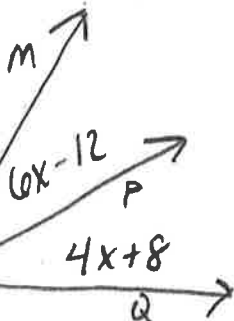
$$\frac{23x}{23} = \frac{69}{23}$$

$$x = 3$$

$$m\angle HJK = 13(3) + 20 = 59^\circ$$



13. \overline{NP} bisects $\angle MNQ$, $m\angle MNP = (6x - 12)^\circ$, and $m\angle PNQ = (4x + 8)^\circ$. Find $m\angle MNQ$.



$$m\angle MNP = m\angle PNQ$$

$$6x - 12 = 4x + 8$$

$$-4x \quad -4x$$

$$2x - 12 = 8$$

$$+12 \quad +12$$

$$2x = 20$$

$$\frac{2x}{2} = \frac{20}{2} \quad x = 10$$

$$m\angle MNP = 6(10) - 12$$

$$= 60 - 12 = 48$$

$$m\angle MNQ = 2(48) = 96^\circ$$

Lesson 1.4 - Angle Pairs

Tell whether the angles are only adjacent, adjacent and linear pair, or not adjacent.

14. $\angle 1$ and $\angle 2$

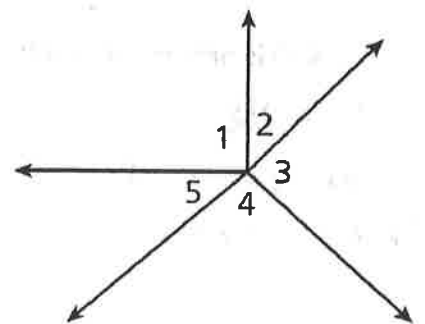
Adjacent
only

15. $\angle 3$ and $\angle 4$

Adjacent
and Linear
pair

16. $\angle 2$ and $\angle 5$

Not
Adjacent

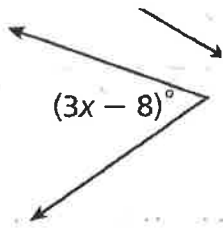


Find the measure of the complement or supplement of each angle.

17. Find the Complement

18. Find the Supplement

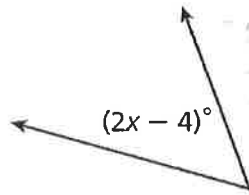
19. Find the Complement



$$90 - (3x - 8)$$

$$90 - 3x + 8$$

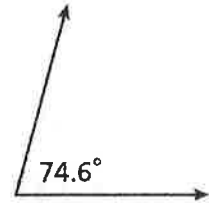
$$\boxed{98 - 3x}$$



$$180 - (2x - 4)$$

$$180 - 2x + 4$$

$$\boxed{184 - 2x}$$



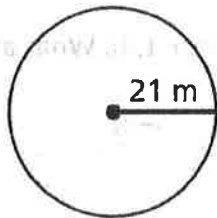
$$90 - 74.6$$

$$\boxed{15.4^\circ}$$

Lesson 1.5 - Using Formulas in Geometry

Find the circumference and area of each circle. Answer in terms of π .

20.



$$C = 2\pi r$$

$$= 2\pi(21)$$

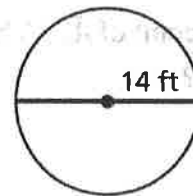
$$\boxed{C = 42\pi \text{ m}}$$

$$A = \pi r^2$$

$$A = \pi(21)^2$$

$$\boxed{A = 441\pi \text{ m}^2}$$

21.



$$r = 7 \text{ ft}$$

$$C = 2\pi r$$

$$C = 2\pi(7)$$

$$\boxed{C = 14\pi \text{ ft}}$$

$$A = \pi r^2$$

$$A = \pi(7)^2$$

$$\boxed{A = 49\pi \text{ ft}^2}$$

22. Find the perimeter of a square whose side lengths are 4.5 inches long.

$$\text{Perimeter of Square} = 4s$$

$$P = 4(4.5)$$

$$\boxed{P = 18 \text{ inches}}$$

23. The area of a triangle is 102 m^2 . The base of the triangle is 17 m. Find the height.

$$A = \frac{1}{2} b h$$

$$102 = \frac{1}{2} (17) h$$

$$\frac{102}{8.5} = \frac{8.5 h}{8.5}$$

$$12 = h$$

$$\boxed{h = 12 \text{ m}}$$

Lesson 1.6 - Midpoint and Distance Formulas

24. What is the distance from $X(-2, 4)$ & $Y(6, 1)$

$$d = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$$

$$XY = \sqrt{(6+2)^2 + (1-4)^2}$$

$$XY = \sqrt{(8)^2 + (-3)^2}$$

$$XY = \sqrt{64 + 9}$$

$$XY = \sqrt{73}$$

25. What is the distance from $L(-4, 2)$ and $M(3, -2)$

$$LM = \sqrt{(3+4)^2 + (-2-2)^2}$$

$$LM = \sqrt{(7)^2 + (-4)^2}$$

$$LM = \sqrt{49 + 16}$$

$$LM = \sqrt{65}$$

26. Given \overline{AY} with endpoints $A(5, 9)$ and $Y(-11, 3)$, what are the coordinates for the midpoint?

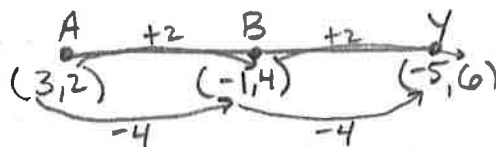
$$\left(\frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2} \right)$$

$$\left(\frac{5+(-11)}{2}, \frac{9+3}{2} \right)$$

$$\left(\frac{-6}{2}, \frac{12}{2} \right)$$

$$(-3, 6)$$

27. B is the midpoint of \overline{AY} . A has coordinates $(3, 2)$ and B has coordinates $(-1, 4)$. What are the coordinates of Y?



$$Y(-5, 6)$$

29. You have a piece of string 5 feet long. Which of these shapes could the string make?

50 inches a. A rectangle with length 20 inches and width 5 inches

b. A square with side length 4 feet long. $4 \cdot 4 = 16 \text{ ft}$

c. A circle with circle with radius 94.25 inches $C = 2\pi(94.25) = 592.2 \text{ inches}$

d. A rectangle with length 5 feet and width 1 foot. $\text{Perimeter} = 2(5) + 2(1) = 12 \text{ ft}$

Note $5 \text{ ft} = 60 \text{ inches}$

30. Find the area of a circle whose circumference is $14\pi \text{ cm}$.

$$C = 2\pi r$$

$$\frac{14\pi}{2\pi} = \frac{2\pi r}{2\pi}$$

$$7 = r$$

$$A = \pi r^2$$

$$A = \pi(7)^2$$

$$A = 49\pi \text{ cm}^2$$

31. Find the circumference of a circle whose area is $36\pi \text{ cm}^2$

$$A = \pi r^2$$

$$\frac{36\pi}{\pi} = \frac{\pi r^2}{\pi}$$

$$\sqrt{36} = \sqrt{r^2}$$

$$6 = r$$

$$C = 2\pi r$$

$$C = 2\pi(6)$$

$$C = 12\pi \text{ cm}$$