

1. Write the Midpoint Formula.

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

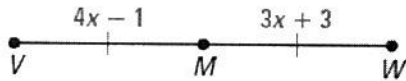
3. The endpoints of \overline{RS} are $R(-2, -1)$ and $S(2, 3)$. Find the midpoint between them.

$$\left(\frac{-2+2}{2}, \frac{-1+3}{2} \right)$$

$$\left(\frac{0}{2}, \frac{2}{2} \right)$$

$$\boxed{(0, 1)}$$

5. Find MW .



$$4x - 1 = 3x + 3$$

$$x = 4$$

$$MW = 3(4) + 3 = \boxed{15}$$

2. Write the Distance Formula.

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

4. The endpoints of \overline{RS} are $R(-2, -1)$ and $S(2, 3)$. Find the distance between them. Round your answer to the nearest hundredth.

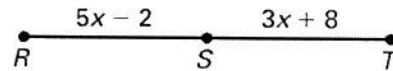
$$d = \sqrt{(2 - (-2))^2 + (3 - (-1))^2}$$

$$d = \sqrt{(4)^2 + (4)^2}$$

$$d = \sqrt{16 + 16}$$

$$d = \sqrt{32} \approx \boxed{5.66}$$

6. If S is a midpoint, find RT .



$$5x - 2 = 3x + 8$$

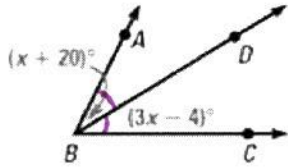
$$2x = 10$$

$$x = 5$$

$$RT = 5(5) - 2 + 3(5) + 8$$

$$\boxed{RT = 46}$$

7. \overline{BD} bisects $\angle ABC$. Find $m\angle ABD$.



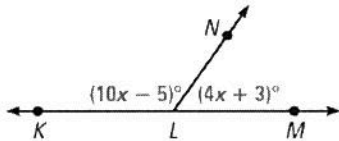
$$x + 20 = 3x - 4$$

$$24 = 2x$$

$$12 = x$$

$$m\angle ABD = 12 + 20 = \boxed{32^\circ}$$

9. Given that $\angle KLM$ is a straight angle, find the $m\angle KLN$. 180°



$$10x - 5 + 4x + 3 = 180^\circ$$

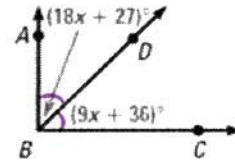
$$14x - 2 = 180^\circ$$

$$14x = 182^\circ$$

$$x = 13$$

$$m\angle KLN = 10(13) - 5 = \boxed{125^\circ}$$

8. \overline{BD} bisects $\angle ABC$. Find $m\angle DBC$.



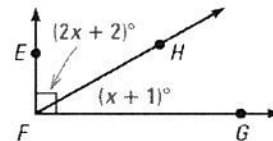
$$18x + 27 = 9x + 36$$

$$9x = 9$$

$$x = 1$$

$$m\angle DBC = 9(1) + 36 = \boxed{45^\circ}$$

10. Given that $\angle EFG$ is a right angle, find the $m\angle HFG$. 90°



$$2x + 2 + x + 1 = 90^\circ$$

$$3x + 3 = 90$$

$$3x = 87$$

$$x = 29$$

$$m\angle HFG = 29 + 1 = \boxed{30^\circ}$$