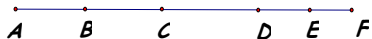


## Distance, Midpoint, Slope

~ 1 ~

1. The coordinate of point  $A$  is  $-8$ . The coordinate of point  $F$  is  $22$ .  $D$  is the midpoint of  $\overline{CF}$ .  $AB = 5$ ,  $AC = 12$ , and  $EF = 3$ .



*Find the coordinate of points  $B$ ,  $C$ ,  $D$ , and  $E$ .*

2. Find the coordinate of the midpoint of the segment with endpoints  $(4, 4)$  and  $(2, -8)$ .

- A.  $(1, 6)$       B.  $(-1, -6)$   
C.  $(6, 12)$     D.  $(3, -2)$

3. What is the slope of a horizontal line?

- A. Positive    B. Negative  
C. Zero        D. Undefined

4. Find the slope of the line containing points  $(5, 3)$  and  $(-5, 7)$ .

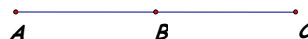
- A. Undefined      B.  $-\frac{2}{5}$   
C.  $-1$             D.  $-\frac{21}{25}$

5.  $\overline{DE}$  has midpoint  $M$ , find the coordinates of the other endpoint of  $\overline{DE}$  given  $D(3, -12)$  and  $M(2, -1)$ .

6. Use the distance formula to find  $MN$ .  
 $M(4, -2)$ ,  $N(-2, -10)$ .

7. Find the distance between points  $(5, 7)$  and  $(7, 5)$ .

8. If  $B$  is the midpoint of  $\overline{AC}$  and  $AB = 5x + 7$  and  $BC = 8x - 14$ .



*Find the value of  $x$  and the length of  $\overline{AC}$ .*

9. Use the distance formula to determine if  $M$  is the midpoint of  $HL$ .  $H(-1, 3)$ ,  $M(1, 7)$ , and  $L(3, 3)$ .

10. Find the coordinates of the midpoint of  $\overline{PQ}$ .  $P(7.5, 8)$  and  $Q(-3.5, -12)$ .

11. Define midpoint of a segment.

12. What is the distance between the midpoint of  $\overline{AB}$  and point  $C$ . Point  $A$ ,  $B$ , and  $C$  have coordinates;  $A(5, 6)$ ,  $B(7, -2)$  and  $C(3, 6)$ .

## Distance, Midpoint, Slope

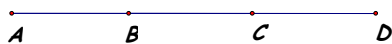
~ 2 ~

13. If the slope of a line is  $\frac{2}{3}$ . Find the value of  $x$  if the following points are said to lie on that line.  $(x, 7)$  and  $(2, 3)$ .

14. **Given:**  $B$  is midpoint  $\overline{AC}$ ,  $C$  is midpoint

$\overline{BD}$

**Prove:**  $AB = CD$



15. **Given:** An Isosceles Triangle has two sides of equal length.

**Prove:**  $\triangle ABC$  is isosceles.

