



Distance Formula

Name _____

Score _____

DF:09

Example : Find the value of g , if the distance between the points $(m, 2)$ and $(-9, -5)$ is 7 units.

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

$$7 = \sqrt{(-9 - m)^2 + (-5 - 2)^2}$$

$$49 = (-9 - m)^2 + 49 \Rightarrow 0 = (-9 - m)^2 \Rightarrow 0 = -9 - m$$

$$m = -9$$

Find the value of unknown variables from the given endpoints and the distance between them.

- 1) $(-10, s)$ and $(8, 4)$
distance = 18 units

$s =$ 

- 2) $(8, -2)$ and $(b, -6)$
distance = 4 units

$b =$ 

- 3) $(-7, -1)$ and $(7, w)$
distance = 14 units

$w =$ 

- 4) $(-1, -9)$ and $(-1, r)$
distance = 17 units

$r =$ 

- 5) $(2, z)$ and $(5, 6)$
distance = 5 units

$z =$ 

- 6) $(c, -6)$ and $(-7, -6)$
distance = 11 units

$c =$ 



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Answer key

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$$m = -9$$

Find the value of unknown variables from the given endpoints and the distance between them.

1) $(-10, s)$ and $(8, 4)$
distance = 18 units

$$s = \text{4}$$

2) $(8, -2)$ and $(b, -6)$
distance = 4 units

$$b = \text{8}$$

3) $(-7, -1)$ and $(7, w)$
distance = 14 units

$$w = \text{-1}$$

4) $(-1, -9)$ and $(-1, r)$
distance = 17 units

$$r = \text{-26 or 8}$$

5) $(2, z)$ and $(5, 6)$
distance = 5 units

$$z = \text{2 or 10}$$

6) $(c, -6)$ and $(-7, -6)$
distance = 11 units

$$c = \text{-18 or 4}$$