



Distance Formula

Name _____

Score _____

DF:08

Example : Find the value of g , if the distance between the points $(-2, -3)$ and $(-2, g)$ is 4 units.

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

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

$$16 = (g + 3)^2 \Rightarrow \pm 4 = g + 3 \Rightarrow 0 = 3 - k$$

$$\mathbf{g = -7 \text{ or } 1}$$

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

1) $(-3, -5)$ and $(9, d)$
distance = 12 units

$$d = \text{[hexagon]}$$

2) $(-6, n)$ and $(3, -4)$
distance = 15 units

$$n = \text{[hexagon]}$$

3) $(t, 6)$ and $(0, 6)$
distance = 6 units

$$t = \text{[hexagon]}$$

4) $(4, 10)$ and $(a, -2)$
distance = 13 units

$$a = \text{[hexagon]}$$

5) $(-3, v)$ and $(-1, -1)$
distance = 2 units

$$v = \text{[hexagon]}$$

6) $(q, 4)$ and $(5, -5)$
distance = 9 units

$$q = \text{[hexagon]}$$



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Answer key

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

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$$\mathbf{g = -7 \text{ or } 1}$$

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

1) $(-3, -5)$ and $(9, d)$
distance = 12 units

$$d = \text{hexagon containing } -5$$

2) $(-6, n)$ and $(3, -4)$
distance = 15 units

$$n = \text{hexagon containing } -16 \text{ or } 8$$

3) $(t, 6)$ and $(0, 6)$
distance = 6 units

$$t = \text{hexagon containing } -6 \text{ or } 6$$

4) $(4, 10)$ and $(a, -2)$
distance = 13 units

$$a = \text{hexagon containing } -1 \text{ or } 9$$

5) $(-3, v)$ and $(-1, -1)$
distance = 2 units

$$v = \text{hexagon containing } -1$$

6) $(q, 4)$ and $(5, -5)$
distance = 9 units

$$q = \text{hexagon containing } 5$$