Name : _____ Score : _____

Distance Formula

Sheet 2

Example: The distance between the points (–1, 3) and (k, –6) is 15 units. Find the value of k.

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

$$15 = \sqrt{(k + 1)^2 + (-6 - 3)^2}$$

$$225 = (k + 1)^2 + (-9)^2 \Rightarrow 144 = (k + 1)^2 \Rightarrow \pm 12 = k + 1$$

$$k = -13 \text{ or } 11$$

Find the unknown value with the given endpoints and distance between them.

1) (6, –9), (6, n), di l), distance = 5 units

n = _____

3) (z, –2), (2, 6), di -2), distance = 13 units

z = _____

5) (5, m), (5, 3), di distance = 4 units

m = _____

7) The endpoints (–4, p) and the length is 17 units. Find the value of p.

p = _____

8) The endpoints of one of the sides of a square are (0, b) and (–4, 6). The length of the side is 5 units. Find the value of b.

b = _____