THIRD SPACE LEARNING

Distance Formula Worksheet

Algebra

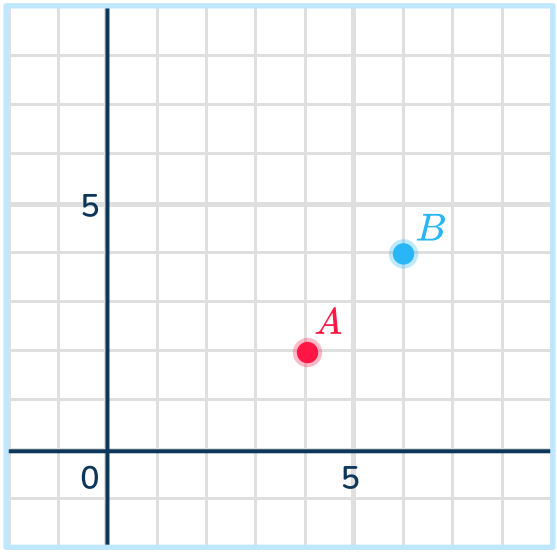
Grades 6 to 8

Questions

Name: .....

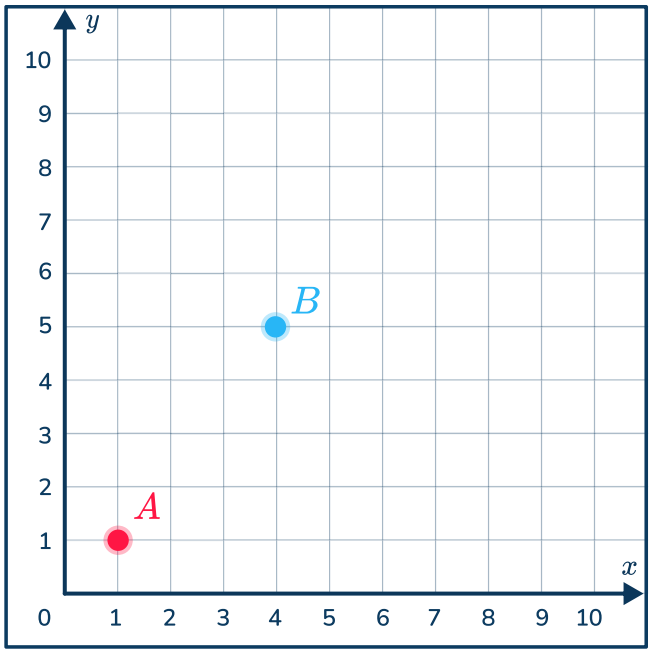
Date: .....

1 Find the distance between points A and B.



Answer

2 Find the distance between points A and B using the Pythagorean theorem.



Answer

3 Find the distance between the points using the Pythagorean theorem, (0,0) and (8,6).

Answer

4 Find the distance between (−3,4) and (5,−2).

Answer

5 The distance between A (3,7) and B (10,y) is 10 units. Find y, where y is positive.

Answer

6 Determine the distance between (6,8) and (10,12). Leave your answer in simplest radical form.

Answer

7 A point P lies at (1,−3) and Q is at (−4,7). Find the distance between them.

Answer

8 Use the distance formula to find the distance between (5,10) and (12,4).

Answer

9 Find the distance between (−2,6) and (4,−3). Round to one decimal place.

Answer

10 Points (1,5) and (16,k) are 17 units apart. Find k, where k is negative.

Answer

11 Find the distance between points (3,4) and (6,10).

Answer

12 The distance between points (2,9) and (f,10) is 15. Find f, where f is positive.

Answer

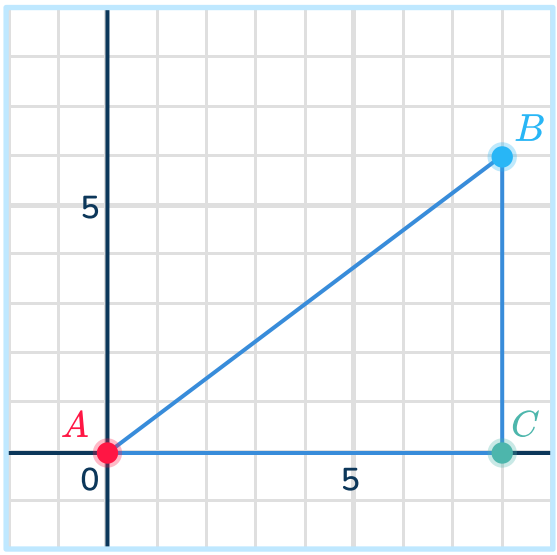
13 Calculate the distance between (−5,−2) and (3,6).

Answer

14 Find the distance between (7,−4) and (2,2).

Answer

15 Point A (0,0), B (8,6) , C (8, 0) form a triangle. Find the perimeter of the triangle.

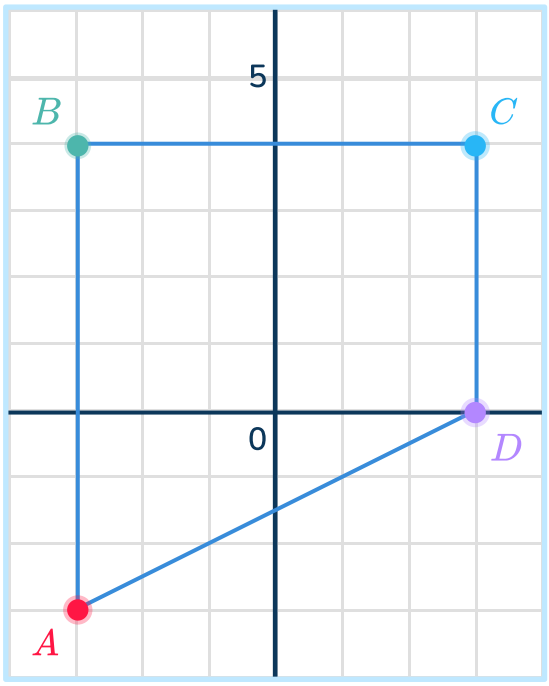


Answer

16 Determine the distance between points (10,5) and (15,12).

Answer

17 Find the perimeter of the quadrilateral formed by the points: A (−3,−3), B (-3,4), C(3, 4), D(3, 0)



Answer

18 The distance between points (4,8) and (x,10) is 5. Find x, where x is negative.

Answer

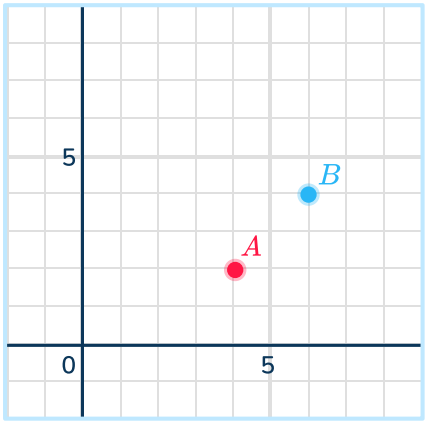
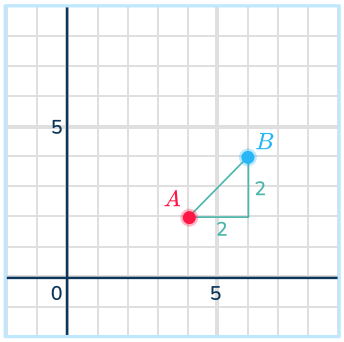
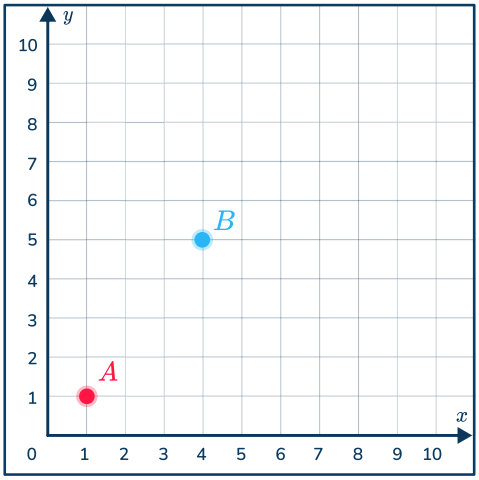
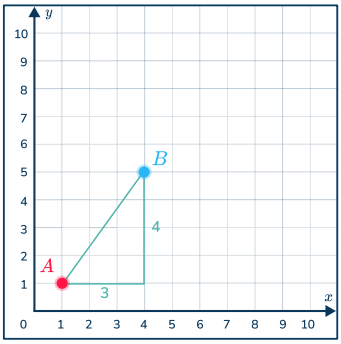
19 Find the distance between points (1,−2) and (7,3).

Answer

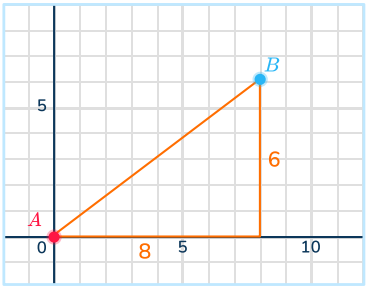
20 Determine the distance between (−6,−4) and (2,5).

Answer

Answers

Question number	Question	Answers	Standard
1	Find the distance between points A and B. 	 $2^2 + 2^2 = (AB)^2$ 4 + 4 = $(AB)^2$ 8 = AB^2 $\sqrt{8} = AB$ The distance between the points is $\sqrt{8} \approx 2.8$ units	8.G.B.8
2	Find the distance between points A and B using the Pythagorean theorem. 	 $3^2 + 4^2 = (AB)^2$ 9 + 16 = $(AB)^2$ 25 = AB^2 5 = AB The distance between point A and B is 5 units.	8.G.B.8

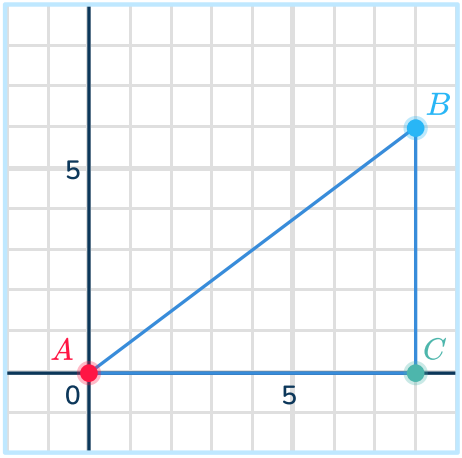
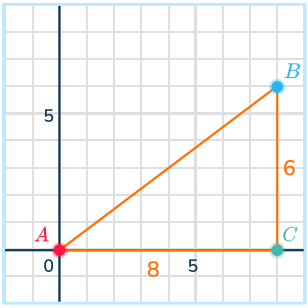
Distance Formula Worksheet | Grades 6 to 8 | Answers

Question number	Question	Answers	Standard
3	Find the distance between the points using the Pythagorean theorem, (0,0) and (8,6).	 $8^2 + 6^2 = (AB)^2$ $64 + 36 = (AB)^2$ $100 = (AB)^2$ $10 = AB$ The distance between the points is 10 units	8.G.B.8
4	Find the distance between (−3,4) and (5,−2). Round your answer to one decimal place.	$\sqrt{(5+3)^2 + (-2-4)^2}$ $= \sqrt{64+36} = 10.0$ units	8.G.B.8
5	The distance between A (3,7) and B (10,y) is 10 units. Find y, where y is positive.	$10 = \sqrt{(10-3)^2 + (y-7)^2}$ $100 = 49 + (y-7)^2$ $51 = (y-7)^2$ $\sqrt{51} = y - 7$ $\sqrt{51} + 7 = y$ $y = 14.1$	8.G.B.8
6	Determine the distance between (6,8) and (10,12). Leave your answer in simplest radical form.	$\sqrt{(10-6)^2 + (12-8)^2}$ $\sqrt{16+16} = \sqrt{32} = \sqrt{16}\sqrt{2}$ $= 4\sqrt{2}$ units	8.G.B.8
7	A point P lies at (1,−3) and Q is at (−4,7). Find the distance between them.	$\sqrt{(-4-1)^2 + (7+3)^2}$ $= \sqrt{25+100}$ $= \sqrt{125} \approx 11.2$	8.G.B.8
8	Use the distance formula to find the distance between (5,10) and (12,4).	$\sqrt{(12-5)^2 + (4-10)^2}$ $= \sqrt{49+36}$ $= \sqrt{85} \approx 9.2$ units	8.G.B.8

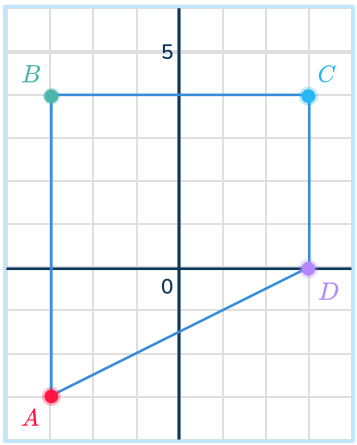
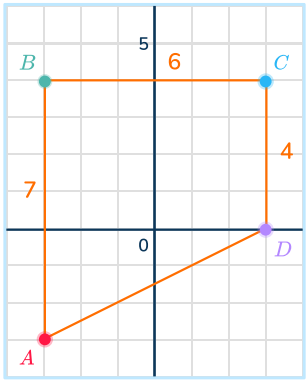
Distance Formula Worksheet | Grades 6 to 8 | Answers

Question number	Question	Answers	Standard
9	Find the distance between (−2,6) and (4,−3). Round to one decimal place.	$\sqrt{(4+2)^2+(-3-6)^2}$ $=\sqrt{36+81}$ $=\sqrt{117}\approx 10.8$ units	8.G.B.8
10	Points (1,5) and (16,k) are 17 units apart. Find k, where k is negative.	$17=\sqrt{(16-1)^2+(k-5)^2}$ Solve 289 = 225 + (k −5)², (k−5)² = 64, k = 5 − 8 = −3	8.G.B.8
11	Find the distance between points (3,4) and (6,10).	$\sqrt{(6-3)^2+(10-4)^2}$ $=\sqrt{9+36}$ $=\sqrt{45}\approx 6.7$ units	8.G.B.8
12	The distance between points (2,9) and (f,10) is 15. Find f, where f is positive.	$15=\sqrt{(f-2)^2+(10-9)^2}$ Solve 225 = (f − 2)² +1, (f − 2)² = 224, f = 2 + 4$\sqrt{14}\approx 16.97$	8.G.B.8
13	Calculate the distance between (−5, −2) and (3,6).	$\sqrt{(3+5)^2+(6+2)^2}$ $=\sqrt{64+64}$ $=\sqrt{128}\approx 11.3$ units	8.G.B.8
14	Find the distance between (7,−4) and (2,2).	$\sqrt{(2-7)^2+(2+4)^2}$ $=\sqrt{25+36}$ $=\sqrt{61}\approx 7.8$ units	8.G.B.8

Distance Formula Worksheet | Grades 6 to 8 | Answers

Question number	Question	Answers	Standard
15	Point A (0,0), B (8,6) , C (8, 0) form a triangle. Find the perimeter of the triangle. 	 Use the distance formula or the Pythagorean theorem to find the third side of the triangle. $8^2 + 6^2 = AB^2$ 64 + 36 = AB^2 100 = AB^2 10 = AB Perimeter = 8 + 6 + 10 Perimeter = 24 units	8.G.B.8
16	Determine the distance between points (10,5) and (15,12).	$\sqrt{(15-10)^2+(12-5)^2}$ $=\sqrt{25+49}$ $=\sqrt{74} \approx 8.6$ units	8.G.B.8

Distance Formula Worksheet | Grades 6 to 8 | Answers

Question number	Question	Answers	Standard
17	Find the perimeter of the quadrilateral formed by the points: A (–3,–3), B (-3,4), C(3, 4), D(3, 0) 	 Use the distance formula or the Pythagorean theorem to find the distance from A to D. $d = \sqrt{(3+3)^2 + (0+3)^2}$ $d = \sqrt{36+9}$ $d = \sqrt{45} \approx 6.7$ Perimeter = 4 + 6 + 7 + 6.7 Perimeter = 23.7 units	8.G.B.8
18	The distance between points (4,8) and (x,10) is 5. Find x, where x is negative.	$5 = \sqrt{(x-4)^2 + (10-8)^2}$ Solve 25 = (x – 4)² + 4, (x – 4)² = 21, $x = 4 - \sqrt{21} \approx -0.6$	8.G.B.8
19	Find the distance between points (1, –2) and (7,3).	$\sqrt{(7-1)^2 + (3+2)^2}$ $= \sqrt{36+25}$ $= \sqrt{61} \approx 7.8$ units	8.G.B.8
20	Determine the distance between (–6,–4) and (2,5).	$\sqrt{(2+6)^2 + (5+4)^2}$ $\sqrt{64+81}$ $\sqrt{145} \approx 12.0$ units	8.G.B.8

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