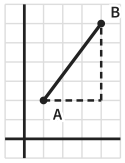
Coordinates and Pythagoras

ANSWERS

1

Find the distance from (1, 2) to (4, 6).



across 4 − 1 = 3

up 6 − 2 = 4

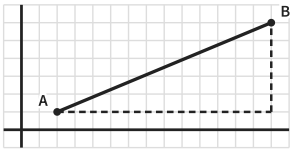
distance √(9 + 16) = 5

5

Answer 5

2

Find the distance from (2, 1) to (14, 6).



across 14 − 2 = 12

up 6 − 1 = 5

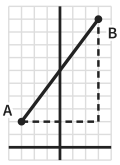
distance √(144 + 25) = 13

13

Answer 13

3

Find the distance from (−3, 2) to (3, 10).



across 3 − −3 = 6

up 10 − 2 = 8

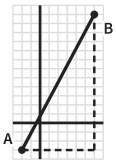
distance √(36 + 64) = 10

10

Answer 10

4

Find the distance from (−2, −3) to (6, 12).



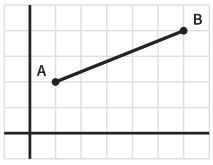
distance √(64 + 225) = 17

17

Answer 17

5

Find the distance from (1, 2) to (6, 4) to 1 decimal place.



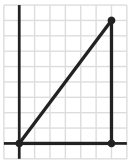
$\sqrt{(5^2 + 2^2)} = \sqrt{29}$

5.4

Answer 5.4

6

A triangle has corners at (0, 0), (6, 0) and (6, 8). Find its perimeter.



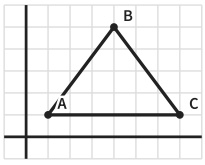
6 + 8 + 10

24

Answer 24

7

A is (1, 1), B is (4, 5) and C is (7, 1).
Show that triangle ABC is isosceles.



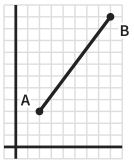
$AB = \sqrt{(3^2 + 4^2)}$, $BC = \sqrt{(3^2 + 4^2)}$

$AB = BC = 5$

Answer $AB = BC = 5$

8

M is the midpoint of A(2, 3) and B(8, 11).
Find the coordinates of M and the distance from M to A.



M is halfway across and up;
$MA = \sqrt{(3^2 + 4^2)}$

(5, 7), 5

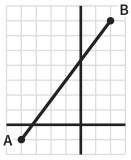
Answer (5, 7), 5

Coordinates and Pythagoras *further practice*

ANSWERS

9

Find the distance from (−4, −1) to (2, 7).



across 6, up 8

10

Answer 10

10

A circle has centre (0, 0) and radius 13.
Does the point (5, 12) lie on the circle? Explain.

the distance from (0, 0) is $\sqrt{(25 + 144)} = 13$

Yes

Answer Yes

11

A is (1, 2) and B is $(k, 6)$. AB = 5 and $k > 1$.
Find k.

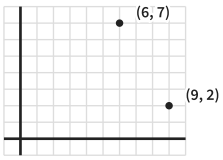
$(k - 1)^2 + 4^2 = 25$

$k = 4$

Answer $k = 4$

12

Which point is closer to the origin, (6, 7) or (9, 2)?



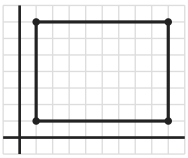
36 + 49 = 85 and 81 + 4 = 85

the same, $\sqrt{85}$

Answer the same, $\sqrt{85}$

13

A rectangle has corners (1, 1), (9, 1), (9, 7) and (1, 7). Find the length of its diagonal.



across 8, up 6

10

Answer 10

14

On a map one square is 1 km.
A runner goes from (2, 1) to (5, 5), then on to (11, 13). How far does she run?

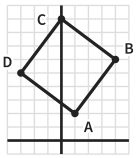
5 km + 10 km

15 km

Answer 15 km

15

ABCD is a square with A(1, 2), B(4, 6), C(0, 9) and D(−3, 5). Find its area.



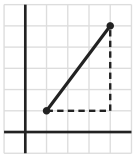
each side is $\sqrt{(3^2 + 4^2)} = 5$

25

Answer 25

16

Tia says the distance from (1, 1) to (4, 5) is 3 + 4 = 7. Explain her mistake.



the distance is the hypotenuse:
$\sqrt{(3^2 + 4^2)}$

5

Answer 5