

Start Tasks — Answers



Use Pythagoras' theorem to find the missing side, then add all three sides to find the perimeter.

1. Right-angled garden bed, legs 3 m and 4 m.

Solution

$$x^2 = 3^2 + 4^2 = 25, \text{ so } x = 5 \text{ m}$$

$$P = 3 + 4 + 5 = 12 \text{ m}$$

2. Right-angled sail, legs 6 m and 8 m.

Solution

$$x^2 = 6^2 + 8^2 = 100, \text{ so } x = 10 \text{ m}$$

$$P = 6 + 8 + 10 = 24 \text{ m}$$

3.



Solution

$$x^2 = 5^2 + 12^2 = 169$$

$$\text{so } x = 13$$

$$P = 5 + 12 + 13 = 30$$

4. Triangular flag, legs 9 cm and 12 cm.

Solution

$$x^2 = 9^2 + 12^2 = 225, \text{ so } x = 15 \text{ cm}$$

$$P = 9 + 12 + 15 = 36 \text{ cm}$$

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5. Kite panel, legs 8 cm and 15 cm.

Solution

$$x^2 = 8^2 + 15^2 = 289, \text{ so } x = 17 \text{ cm}$$

$$P = 8 + 15 + 17 = 40 \text{ cm}$$

6. Tablecloth corner, legs 12 cm and 16 cm.

Solution

$$x^2 = 12^2 + 16^2 = 400, \text{ so } x = 20 \text{ cm}$$

$$P = 12 + 16 + 20 = 48 \text{ cm}$$

7. Road sign, legs 10 cm and 24 cm.

Solution

$$x^2 = 10^2 + 24^2 = 676, \text{ so } x = 26 \text{ cm}$$

$$P = 10 + 24 + 26 = 60 \text{ cm}$$

8.



Solution

$$x^2 = 18^2 + 24^2 = 900$$

$$\text{so } x = 30$$

$$P = 18 + 24 + 30 = 72$$

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9. Tent side panel, legs 15 m and 20 m.

Solution

$$x^2 = 15^2 + 20^2 = 625, \text{ so } x = 25 \text{ m}$$

$$P = 15 + 20 + 25 = 60 \text{ m}$$

10. Bookend, legs 7 cm and 24 cm.

Solution

$$x^2 = 7^2 + 24^2 = 625, \text{ so } x = 25 \text{ cm}$$

$$P = 7 + 24 + 25 = 56 \text{ cm}$$

11. Skateboard ramp side, legs 20 cm and 21 cm.

Solution

$$x^2 = 20^2 + 21^2 = 841, \text{ so } x = 29 \text{ cm}$$

$$P = 20 + 21 + 29 = 70 \text{ cm}$$

12. Roof brace, legs 16 m and 30 m.

Solution

$$x^2 = 16^2 + 30^2 = 1156, \text{ so } x = 34 \text{ m}$$

$$P = 16 + 30 + 34 = 80 \text{ m}$$

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13. Gate brace, legs 21 cm and 28 cm.

Solution

$$x^2 = 21^2 + 28^2 = 1225, \text{ so } x = 35 \text{ cm}$$

$$P = 21 + 28 + 35 = 84 \text{ cm}$$

14.



Solution

$$x^2 = 24^2 + 32^2 = 1600$$

$$\text{so } x = 40$$

$$P = 24 + 32 + 40 = 96$$

15. Zipline support, legs 9 m and 40 m.

Solution

$$x^2 = 9^2 + 40^2 = 1681, \text{ so } x = 41 \text{ m}$$

$$P = 9 + 40 + 41 = 90 \text{ m}$$

16. Ramp, hypotenuse 13 m, one leg 5 m.

Solution

$$x^2 = 13^2 - 5^2 = 144, \text{ so } x = 12 \text{ m}$$

$$P = 5 + 12 + 13 = 30 \text{ m}$$

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17. Sandwich-board sign, hypotenuse 25 cm, one leg 7 cm.

Solution

$$x^2 = 25^2 - 7^2 = 576, \text{ so } x = 24 \text{ cm}$$

$$P = 7 + 24 + 25 = 56 \text{ cm}$$

18. Umbrella panel, hypotenuse 17 cm, one leg 8 cm.

Solution

$$x^2 = 17^2 - 8^2 = 225, \text{ so } x = 15 \text{ cm}$$

$$P = 8 + 15 + 17 = 40 \text{ cm}$$

19. Pennant flag, hypotenuse 15 cm, one leg 9 cm.

Solution

$$x^2 = 15^2 - 9^2 = 144, \text{ so } x = 12 \text{ cm}$$

$$P = 9 + 12 + 15 = 36 \text{ cm}$$

20. Shelf bracket, hypotenuse 10 cm, one leg 6 cm.

Solution

$$x^2 = 10^2 - 6^2 = 64, \text{ so } x = 8 \text{ cm}$$

$$P = 6 + 8 + 10 = 24 \text{ cm}$$

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Use Pythagoras' theorem to find the missing side, then add all three sides to find the perimeter.

21. Wheelchair ramp side, legs 33 m and 44 m.

Solution

$$x^2 = 33^2 + 44^2 = 3025, \text{ so } x = 55 \text{ m}$$

$$P = 33 + 44 + 55 = 132 \text{ m}$$

22. TV-stand leg brace, legs 12 cm and 35 cm.

Solution

$$x^2 = 12^2 + 35^2 = 1369, \text{ so } x = 37 \text{ cm}$$

$$P = 12 + 35 + 37 = 84 \text{ cm}$$

23. Gymnastics mat corner, legs 30 cm and 40 cm.

Solution

$$x^2 = 30^2 + 40^2 = 2500, \text{ so } x = 50 \text{ cm}$$

$$P = 30 + 40 + 50 = 120 \text{ cm}$$

24.



Solution

$$x^2 = 15^2 + 36^2 = 1521$$

$$\text{so } x = 39$$

$$P = 15 + 36 + 39 = 90$$

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Use Pythagoras' theorem to find the missing side, then add all three sides to find the perimeter.

25. Kite-string brace, hypotenuse 29 m, one leg 20 m.

Solution

$$x^2 = 29^2 - 20^2 = 441, \text{ so } x = 21 \text{ m}$$

$$P = 20 + 21 + 29 = 70 \text{ m}$$

26. Picture-frame support, hypotenuse 34 cm, one leg 16 cm.

Solution

$$x^2 = 34^2 - 16^2 = 900, \text{ so } x = 30 \text{ cm}$$

$$P = 16 + 30 + 34 = 80 \text{ cm}$$

27. Park-path shortcut across a right corner, legs 20 m and 48 m.

Solution

$$x^2 = 20^2 + 48^2 = 2704, \text{ so } x = 52 \text{ m}$$

$$P = 20 + 48 + 52 = 120 \text{ m}$$