THIRD SPACE LEARNING

Surface Area of a Pyramid Worksheet

Geometry

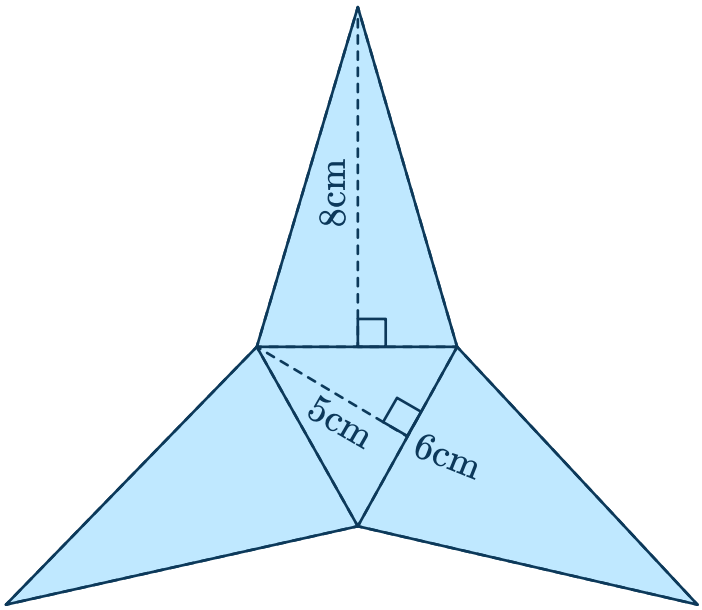
Grades 6 to 8

Questions

Name: .....

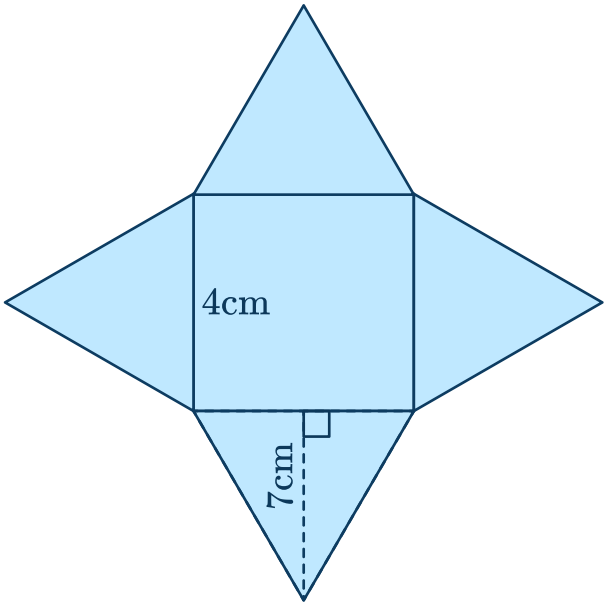
Date: .....

1 The net of a triangular pyramid is shown. All lateral faces are congruent. Calculate the surface area of this triangular pyramid.



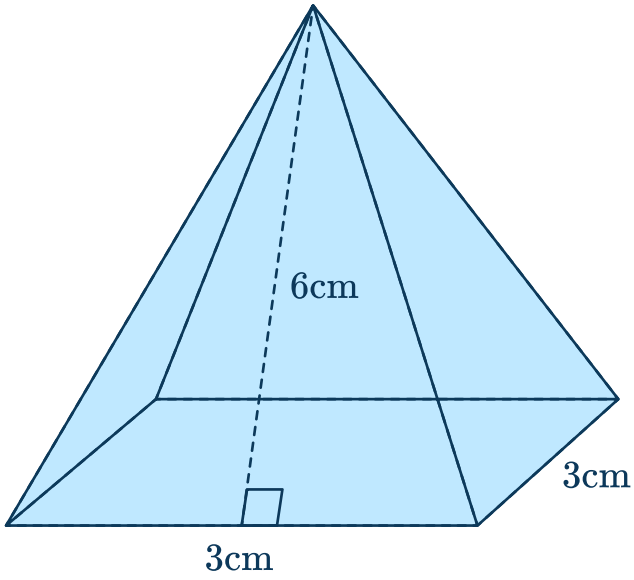
Answer

2 The net of a square pyramid is shown. All lateral faces are congruent. Calculate the surface area.



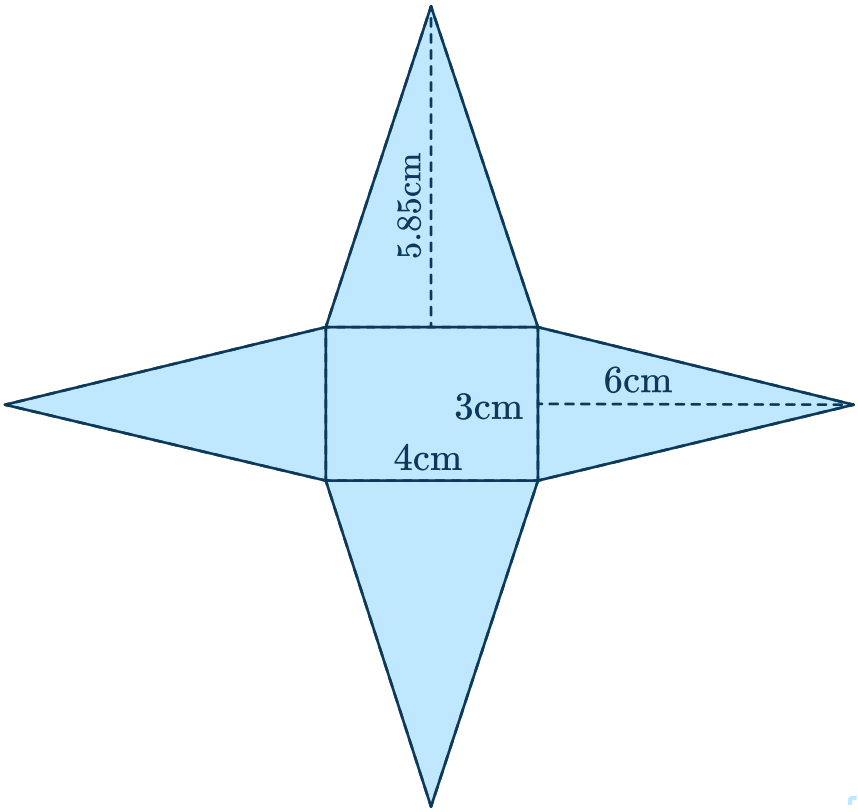
Answer

3 Calculate the surface area of this square pyramid.



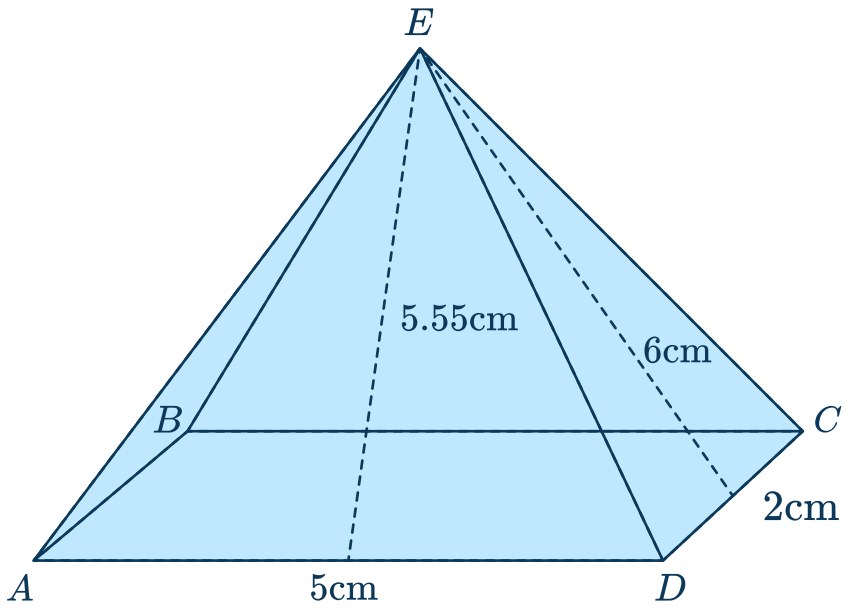
Answer

4 The net of a rectangular pyramid is shown below. Calculate the surface area.



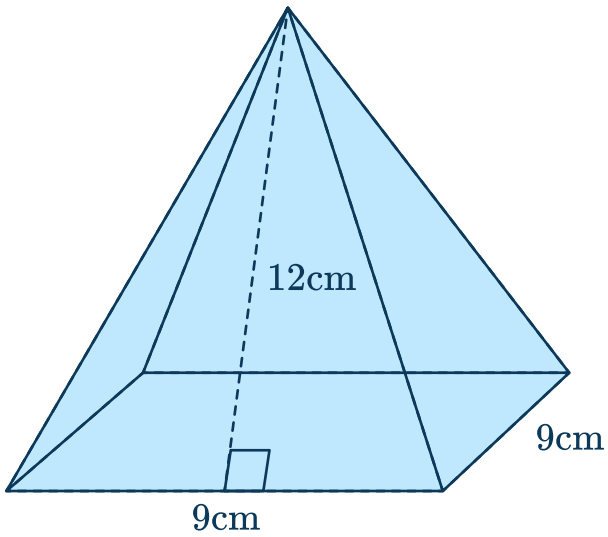
Answer

5 Calculate the surface area of the rectangular pyramid.



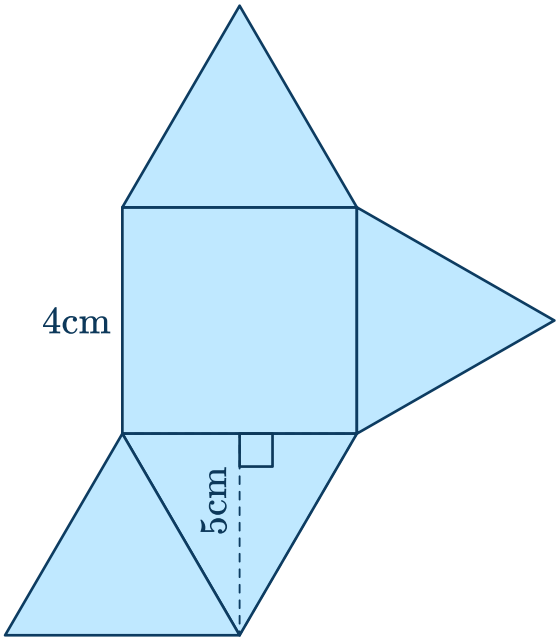
Answer

6 All the lateral faces of this square pyramid are congruent. Calculate the surface area.



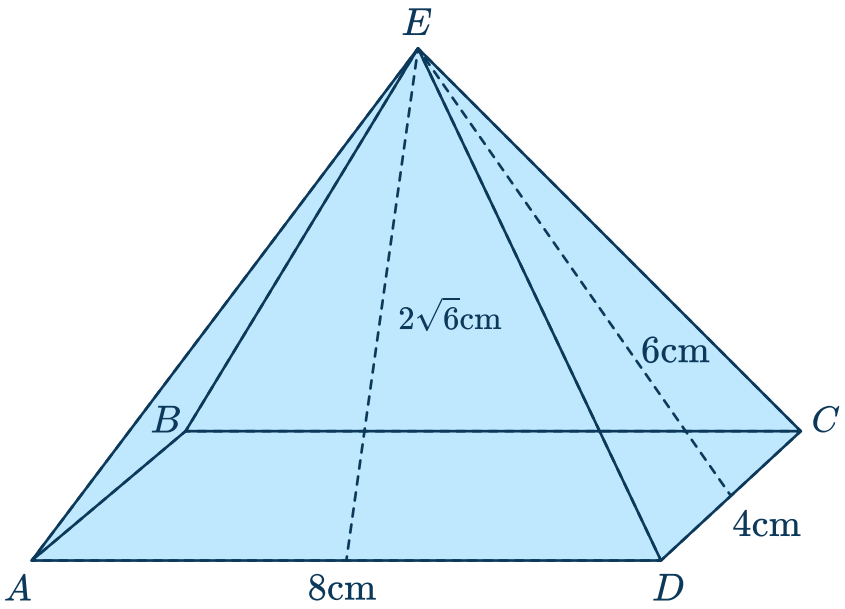
Answer

7 The net of a square pyramid is shown below. Calculate the surface area.



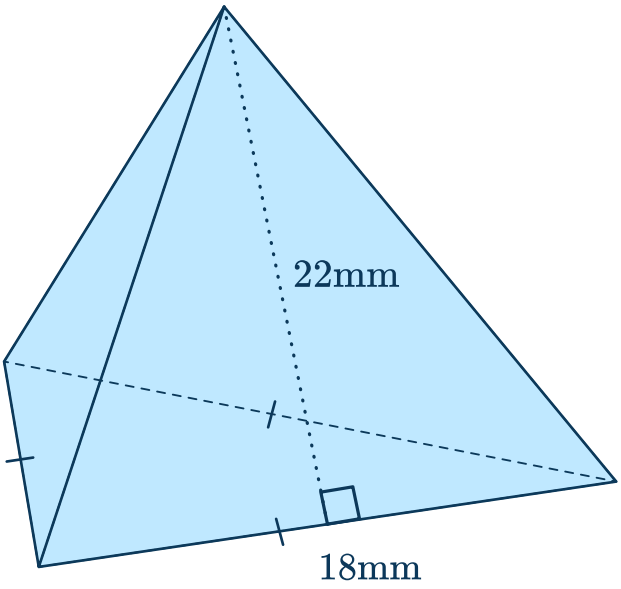
Answer

8 This rectangular pyramid has congruent opposite lateral faces. Calculate the surface area.



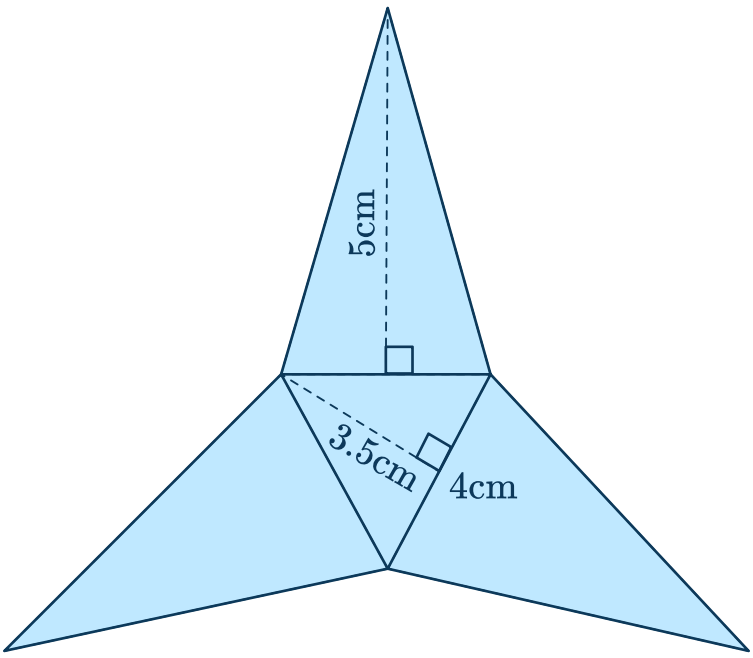
Answer

9 The triangular pyramid has congruent faces. Calculate the surface area.



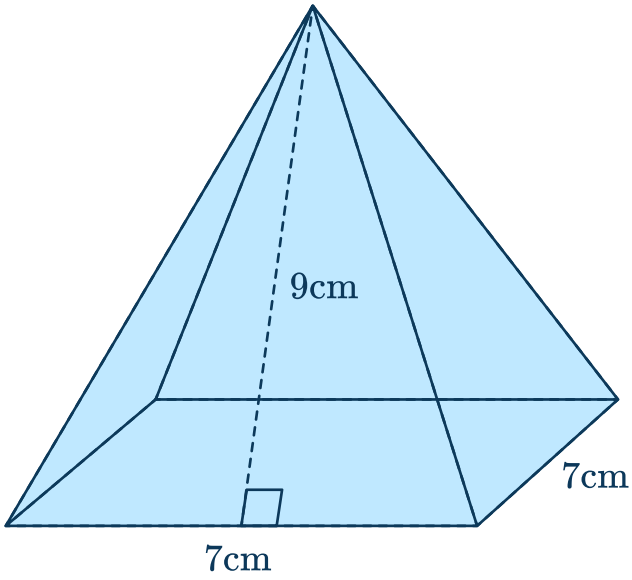
Answer

10 The net of a triangular pyramid is shown below. Calculate the surface area.



Answer

11 The net of a square pyramid is shown. Calculate the total surface area.

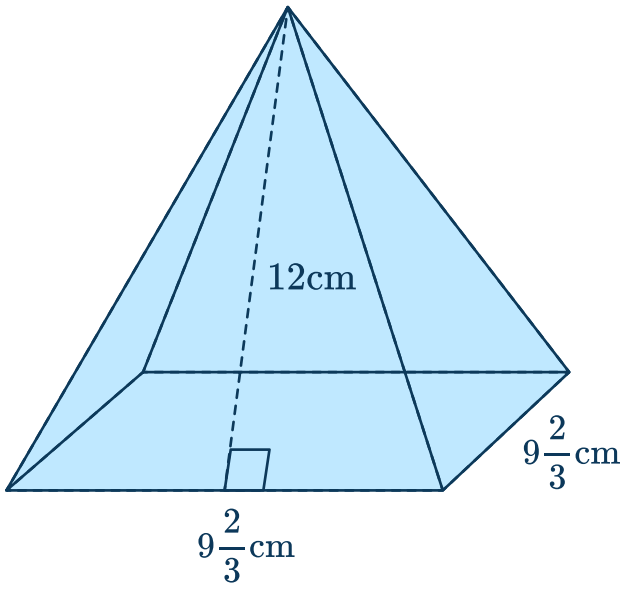


Answer

12 A regular tetrahedron has a base area of 72 m². Calculate the surface area of the tetrahedron.

Answer

13 All the lateral faces of this square pyramid are congruent. Calculate the surface area.

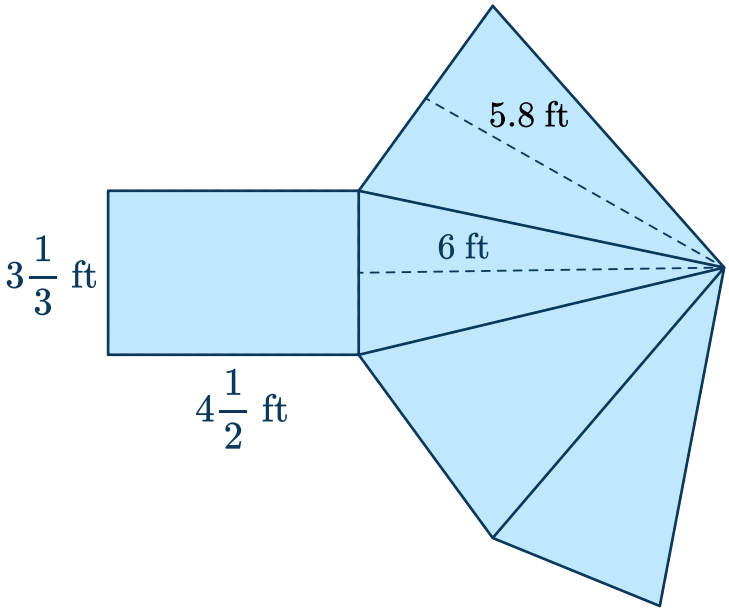


Answer

14 A square pyramid has four congruent lateral sides, whose total area is 45 inches². One side of the base is 3 inches. Calculate the surface area.

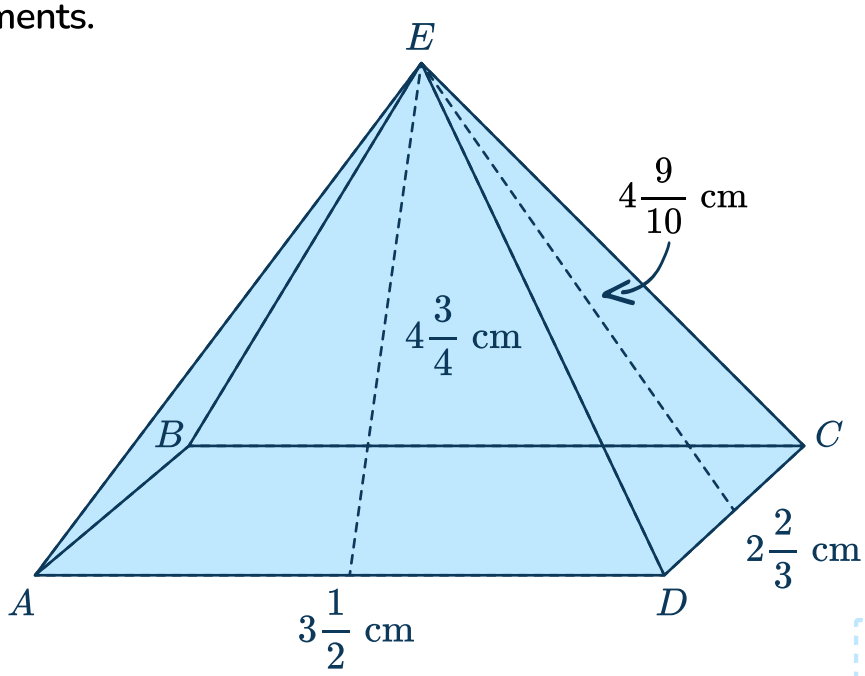
Answer

15 The net of a rectangular pyramid is shown below. Calculate the surface area.



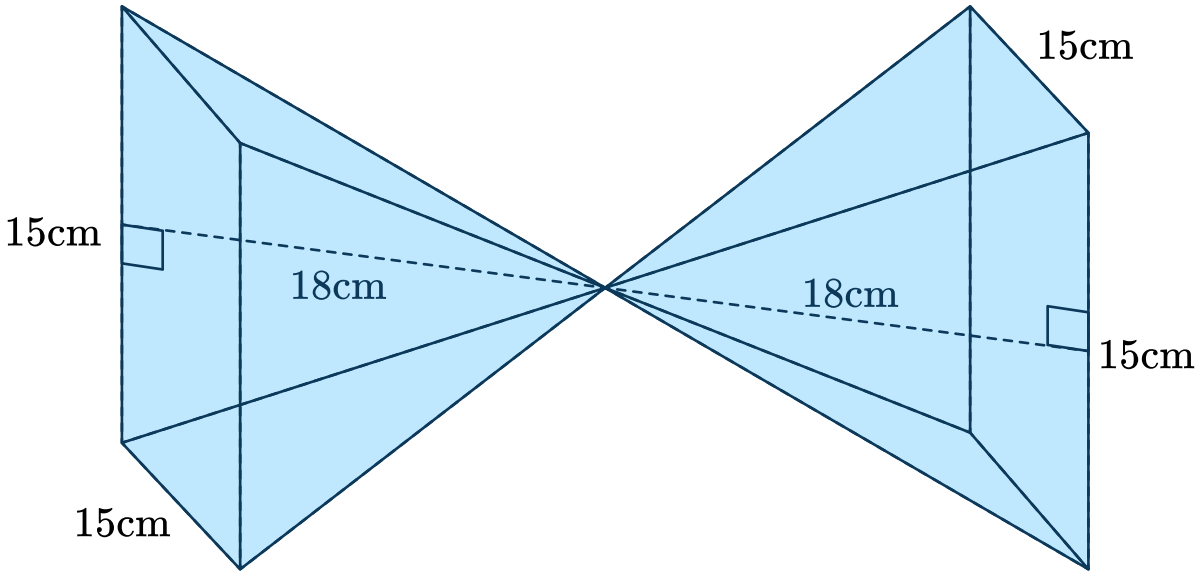
Answer

16 Calculate the surface area of a rectangular pyramid with decimal measurements.



Answer

17 The composite figure is made of two congruent square pyramids. Calculate the surface area.

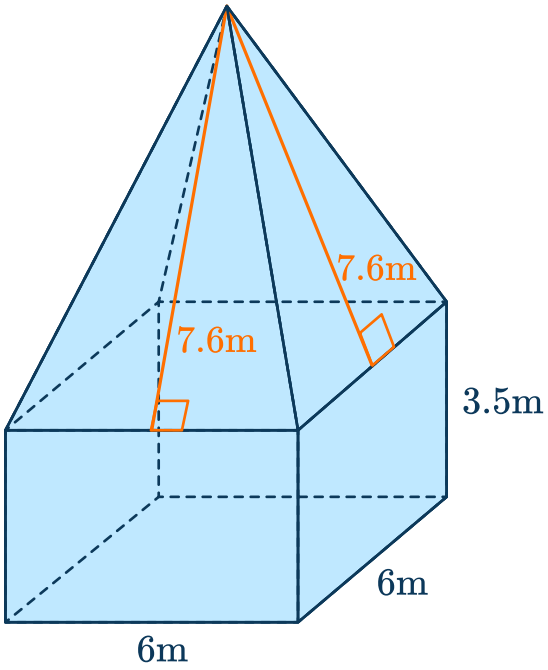


Answer

18 A square pyramid has a base area of 64 units². The lateral faces are congruent and have a height of 6 units. Calculate the surface area of the square pyramid.

Answer

19 Calculate the surface area of the composite figure.

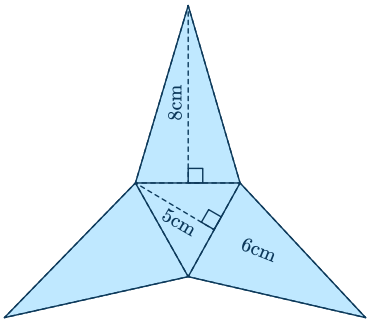
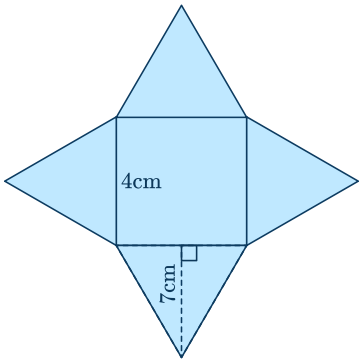
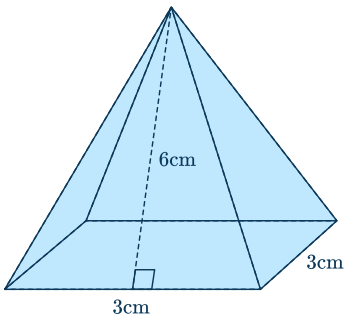


Answer

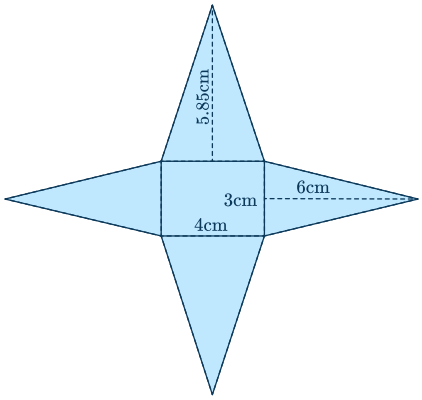
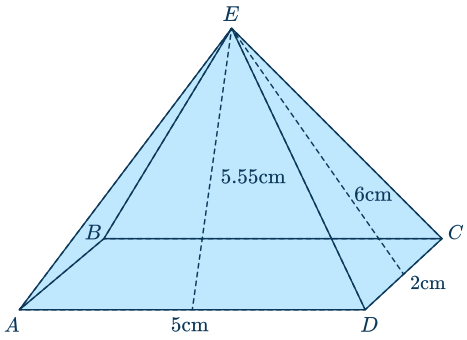
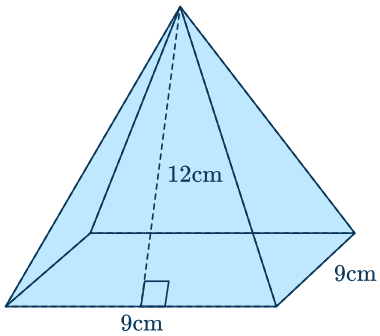
20 A rectangular pyramid has two lateral faces that have a base of 12 ft and a height of 20 ft. The other lateral faces have a base 8 ft and a height of 20.5 ft. Calculate the surface area of the rectangular pyramid.

Answer

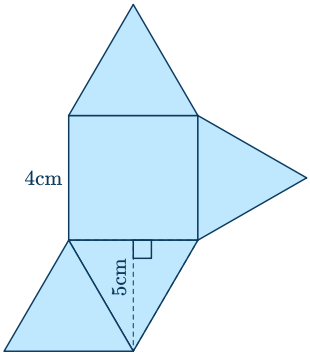
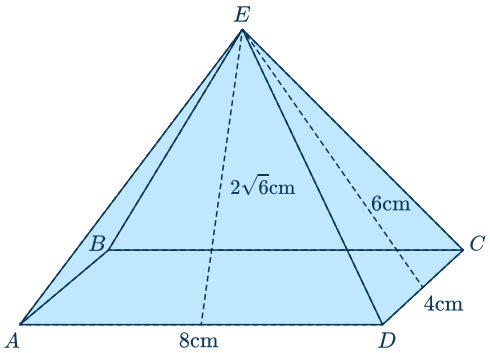
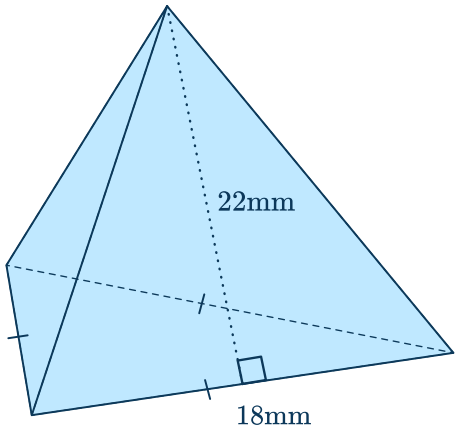
Answers

Question number	Question	Answers	Standard
1	The net of a triangular pyramid is shown. All lateral faces are congruent. Calculate the surface area of this triangular pyramid. 	Base triangle: 6 x 5 ÷ 2 = 15 cm² Triangular faces: 3 x (6 x 8 ÷ 2) = 72 cm² Total surface area = 15 + 72 = 87 cm²	6.G.A.4
2	The net of a square pyramid is shown. All lateral faces are congruent. Calculate the surface area. 	Square base: 4 x 4 = 16 cm² Triangular faces: 4 x (4 x 7 ÷ 2) = 56 cm² Total surface area = 16 + 56 = 72 cm²	6.G.A.4
3	Calculate the surface area of this square pyramid. 	Square base: 3 x 3 = 9 cm² Triangular faces: 4 x (3 x 6 ÷ 2) = 36 cm² Total surface area = 9 + 36 = 45 cm²	6.G.A.4

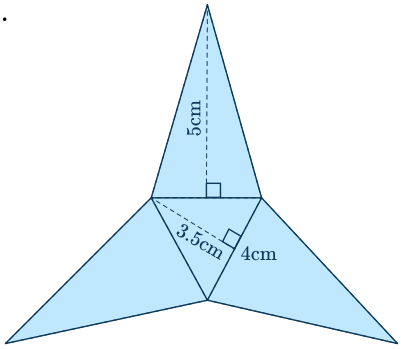
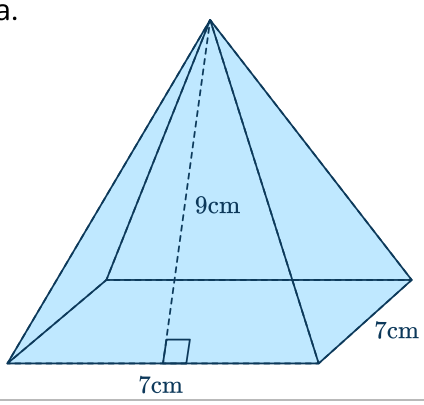
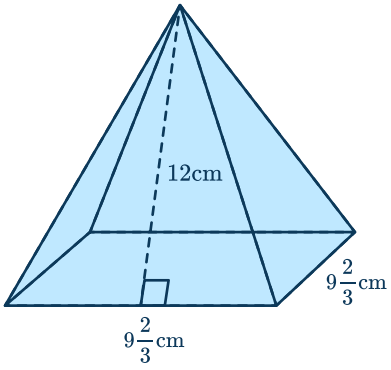
Surface Area of a Pyramid Worksheet | Grades 6 to 8 | Answers

Question number	Question	Answers	Standard
4	The net of a rectangular pyramid is shown below. Calculate the surface area. 	Rectangular base: 3 x 4 = 12 cm² Lateral faces: 2 x (3 x 6 ÷ 2) + 2 x (4 x 5.85 ÷ 2) = 41.4 cm² Total surface area = 12 + 41.4 = 53.4 cm²	6.G.A.4
5	Calculate the surface area of the rectangular pyramid. 	Rectangular base: 5 x 2 = 10 cm² Lateral faces: 2 x (5 x 5.55 ÷ 2) + 2 x (2 x 6 ÷ 2) = 27.75 + 12 = 39.75 cm² Total surface area = 10 + 39.75 = 49.75 cm²	6.G.A.4
6	All the lateral faces of this square pyramid are congruent. Calculate the surface area. 	Square base: 9 x 9 = 81 cm² Triangular faces: 4 x (9 x 12 ÷ 2) = 4 x 54 = 216 cm² Total surface area = 81 + 216 = 297 cm²	6.G.A.4

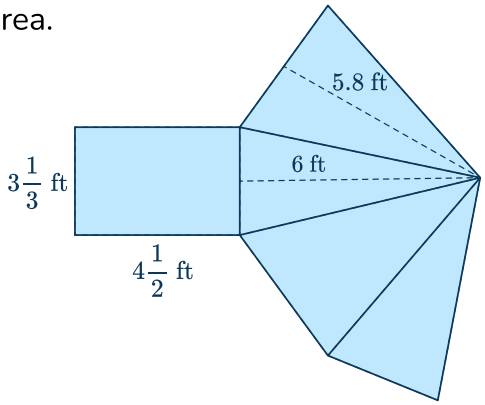
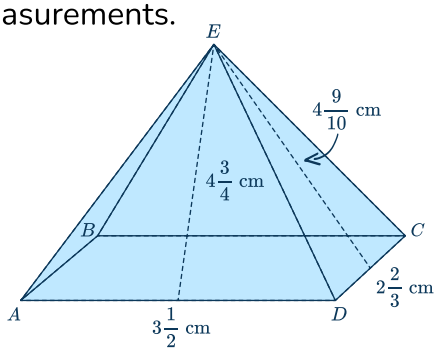
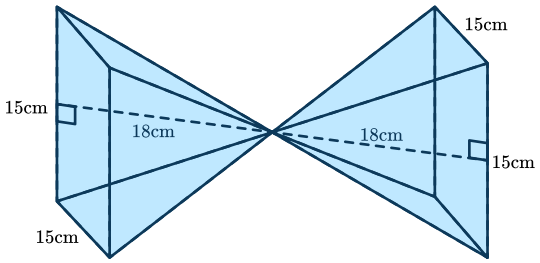
Surface Area of a Pyramid Worksheet | Grades 6 to 8 | Answers

Question number	Question	Answers	Standard
7	The net of a square pyramid is shown below. Calculate the surface area. 	Square base: 4 x 4 = 16 cm² Triangular faces: 4 x (4 x 5 ÷ 2) = 40 cm² Total surface area = 16 + 40 = 56 cm²	6.G.A.4
8	This rectangular pyramid has congruent opposite lateral faces. Calculate the surface area. 	Rectangular base: 4 x 8 = 32 cm² Lateral faces: 2 x (4 x 6 ÷ 2) + 2 x (8 x $2\sqrt{6}$ ÷ 2) = 24 + 39.19 = 63.19 cm² Total surface area = 32 + 63.19 = 95.19 cm²	6.G.A.4
9	The triangular pyramid has congruent faces. Calculate the surface area. 	Triangular faces: 4 x (18 x 22 ÷ 2) = 792 mm²	6.G.A.4

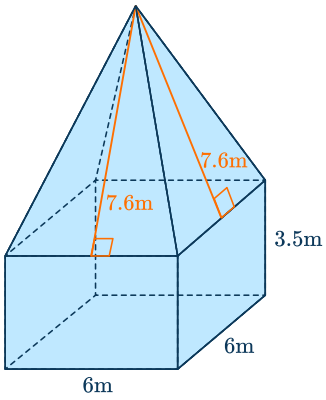
Surface Area of a Pyramid Worksheet | Grades 6 to 8 | Answers

Question number	Question	Answers	Standard
10	The net of a triangular pyramid is shown below. Calculate the surface area. 	Base triangle: (4 x 3.5) ÷ 2 = 7 cm² Triangular faces: 3 x (4 x 5 ÷ 2) = 30 cm² Total surface area = 7 + 30 = 37 cm²	6.G.A.4
11	The net of a square pyramid is shown. Calculate the total surface area. 	Square base: 7 x 7 = 49 inches² Triangular faces: 4 x (7 x 9 ÷ 2) = 126 inches² Total surface area = 49 + 126 = 175 inches²	6.G.A.4
12	A regular tetrahedron has a base area of 72 m². Calculate the surface area of the tetrahedron.	Total surface area = 72 x 4 = 288 m²	6.G.A.4
13	All the lateral faces of this square pyramid are congruent. Calculate the surface area. 	Square base: $9\frac{2}{3}$ x $9\frac{2}{3}$ = $93\frac{4}{9}$cm² Triangular faces: 4 x ($9\frac{2}{3}$ x 12 ÷ 2) = 4 x 58 = 232 cm² Total surface area = $93\frac{4}{9}$ + 232 = $325\frac{4}{9}$ cm²	6.G.A.4

Surface Area of a Pyramid Worksheet | Grades 6 to 8 | Answers

Question number	Question	Answers	Standard
14	A square pyramid has four congruent lateral sides, whose total area is 45 inches². One side of the base is 3 inches. Calculate the surface area.	Square base: 3 x 3 = 9 inches² Total surface area = 9 + 45 = 54 inches²	6.G.A.4
15	The net of a rectangular pyramid is shown below. Calculate the surface area. 	Rectangular base: $3\frac{1}{3}$ x $4\frac{1}{2}$ = 15 ft² Lateral faces: 2 x ($3\frac{1}{3}$ x 6 ÷ 2) + 2 x ($4\frac{1}{2}$ x 5.8 ÷ 2) = 20 + 26.1 = 46.1 ft² Total surface area = 15 + 46.1 = 61.1 ft²	6.G.A.4
16	Calculate the surface area of a rectangular pyramid with decimal measurements. 	Rectangular base: 3.5 x 2.67 = 9.345 cm² Triangular faces: 2 x (3.5 x 4.75 ÷ 2) + 2 x (2.67 x 4.9 ÷ 2) = 16.625 + 13.07 = 29.695 m² Total surface area = 9.345 + 29.695 ≈ 39.04 m²	6.G.A.4
17	The composite figure is made of two congruent square pyramids. Calculate the surface area. 	Square base: 15 x 15 = 225 cm² Triangular faces: 4 x (15 x 18 ÷ 2) = 4 x 135 = 540 cm² Surface area of 1 pyramid = 225 + 540 = 765 cm² Total surface area of both pyramids = 765 + 765 = 1,530 cm²	6.G.A.4

Surface Area of a Pyramid Worksheet | Grades 6 to 8 | Answers

Question number	Question	Answers	Standard
18	A square pyramid has a base area of 64 units². The lateral faces are congruent and have a height of 6 units. Calculate the surface area of the square pyramid.	Square base: s x s = 64 units², s = 8 units Triangular faces: 4 x (6 x 8 ÷ 2) = 4 x 24 = 96 units² Total surface area = 64 + 96 = 160 units²	6.G.A.4
19	Calculate the surface area of the composite figure. 	Square base: 6 x 6 = 36 m² Rectangular faces: 4 x (6 x 3.5) = 4 x 21 = 84 m² Triangular faces: 4 (6 x 7.6 ÷ 2) = 4 x 22.8 = 91.2 m² Total surface area = 36 + 84 + 91.2 = 211.2 m²	6.G.A.4
20	A rectangular pyramid has two lateral faces that have a base of 12 ft and a height of 20 ft. The other lateral faces have a base 8 ft and a height of 20.5 ft. Calculate the surface area of the rectangular pyramid.	Rectangular base: 12 x 8 = 96 ft² Triangular faces: 2 x (12 x 20 ÷ 2) + 2 x (8 x 20.5 ÷ 2) = 240 + 164 = 404 ft² Total surface area = 96 + 404 = 500 ft²	6.G.A.4

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