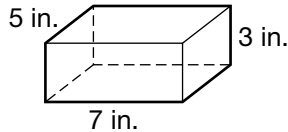Name _____

Surface Area of Prisms and Pyramids

You can use formulas to find the surface area of different solid figures. You can draw nets to help.

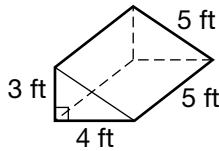**Rectangular Prism**

5 in.   3 in.   7 in.

$SA = 2\ell w + 2\ell h + 2wh$

$= 2\,(5 \times 7) + 2\,(5 \times 3) + 2\,(7 \times 3)$

$= 70 + 30 + 42$

$= 142$

The surface area is 142 in^2.

Triangular Prism

5 ft   3 ft   5 ft   4 ft

$SA = 2\,(\tfrac{1}{2} \times 4 \times 3) + (3 \times 5) + (4 \times 5) + (5 \times 5)$

$= 12 + 15 + 20 + 25$

$= 72$

The surface area is 72 ft^2.

Find the surface area of each figure.

1.

10 ft   6 ft   5 ft   8 ft

2.

9 in.   9 in.   9 in.

_____   _____
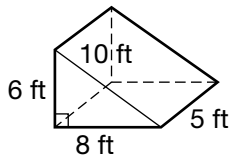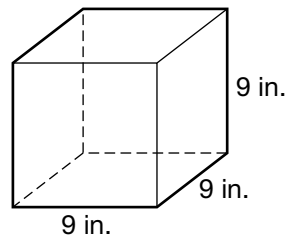
Find the surface area of each rectangular prism.

3. $\ell = 5.5$ cm, $w = 4.5$ cm, $h = 3.5$ cm   _____

4. $\ell = 15$ in., $w = 9$ in., $h = 3.8$ in.   _____

5. $\ell = 2$ yd, $w = 6$ yd, $h = 1.7$ yd   _____

6. Reasoning Write the dimensions of two different rectangular prisms that have the same surface area.

_____

_____

Practice

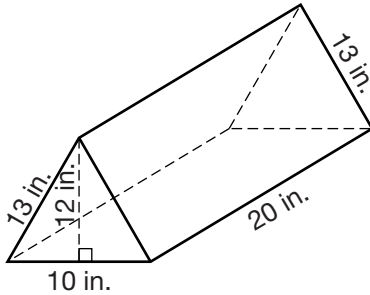**13-2**

Surface Area of Prisms and Pyramids

Find the surface area of each figure. You can draw nets to help.

1.

13 in.

13 in.

12 in.

20 in.

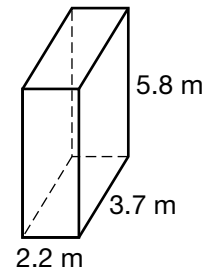10 in.

2.

6.2 cm

6.2 cm

6.2 cm

3.

5.8 m

3.7 m

2.2 m

_____ _____ _____
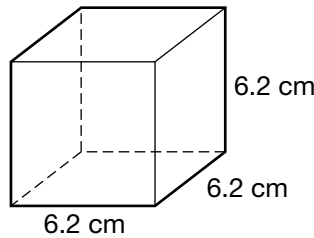
Find the surface area of each rectangular prism.

4. ℓ = 6.9 mm, w = 8.2 mm, h = 14 mm _____

5. ℓ = 3.4 cm, w = 12.7 cm, h = 16.5 cm _____

6. ℓ = 5.7 yd, w = 9 yd, h = 12.9 yd _____

7. Reasoning Margaret wants to cover a footrest in the shape of a rectangular prism with cotton fabric. The footrest is 18 in. × 12 in. × 10 in. She has 1 yd^2 of fabric. Can she completely cover the footrest?

_____

_____

_____

8. Which is the surface area of a rectangular prism with a length of 2.3 in., a width of 1.1 in., and a height of 3 in.?

A 26.48 in^2 **B** 25.46 in^2 **C** 24.58 in^2 **D** 21.5 in^2

9. Writing to Explain A square pyramid has 2 m sides on the base. Each face is a triangle with a base of 2 m and a height of 1.5 m. Explain how to find the surface area.

_____

_____

_____