

Surface Area of Triangular Prisms

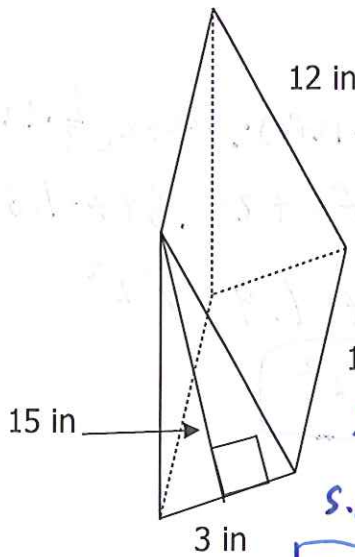
7th Grade Math

Name: Key

$$S.A. \rightarrow P \cdot h + 2 \cdot B$$

Find the surface area of the triangular prisms. Show your work and make sure your answers include units.

1.



$$P = 12 \text{ in} + 12 \text{ in} + 3 \text{ in}$$

$$P = 27 \text{ in}$$

$$h = 10 \text{ in}$$

$$B = \frac{1}{2} \cdot 15 \text{ in} \cdot 3 \text{ in}$$

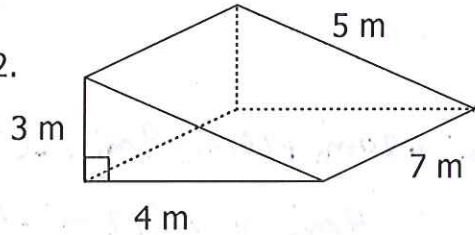
$$B = 22.5 \text{ in}^2$$

$$S.A. = 27 \text{ in} \cdot 10 \text{ in} + 2(22.5 \text{ in}^2)$$

$$S.A. = 270 \text{ in}^2 + 45 \text{ in}^2$$

$$S.A. = 315 \text{ in}^2$$

2.



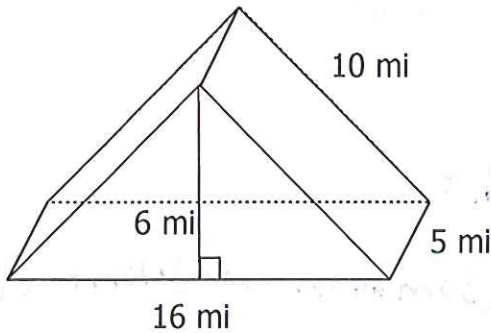
$$S.A. = (3 \text{ m} + 4 \text{ m} + 5 \text{ m}) \cdot 7 \text{ m} + 2\left(\frac{1}{2} \cdot 4 \text{ m} \cdot 3 \text{ m}\right)$$

$$S.A. = 12 \text{ m} \cdot 7 \text{ m} + 2(2 \text{ m} \cdot 3 \text{ m})$$

$$S.A. = 84 \text{ m}^2 + 12 \text{ m}^2$$

$$S.A. = 96 \text{ m}^2$$

3.



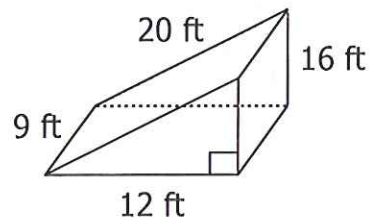
$$S.A. = (16 \text{ mi} + 10 \text{ mi} + 10 \text{ mi}) \cdot 5 \text{ mi} + 2\left(\frac{1}{2} \cdot 16 \text{ mi} \cdot 6 \text{ mi}\right)$$

$$S.A. = 36 \text{ mi} \cdot 5 \text{ mi} + 2(8 \text{ mi} \cdot 6 \text{ mi})$$

$$S.A. = 180 \text{ mi} + 96 \text{ mi}^2$$

$$S.A. = 276 \text{ mi}^2$$

4.



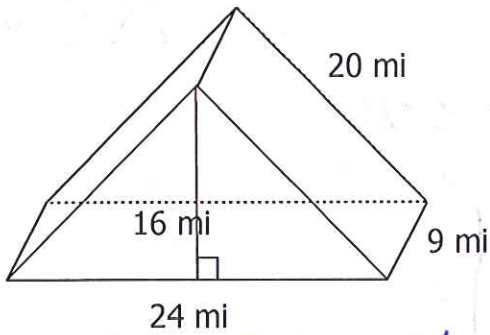
$$S.A. = (12 \text{ ft} + 16 \text{ ft} + 20 \text{ ft}) \cdot 9 \text{ ft} + 2\left(\frac{1}{2} \cdot 12 \text{ ft} \cdot 9 \text{ ft}\right)$$

$$S.A. = 48 \text{ ft} + 9 \text{ ft} + 2(6 \text{ ft} \cdot 9 \text{ ft})$$

$$S.A. = 432 \text{ ft}^2 + 192 \text{ ft}^2$$

$$S.A. = 624 \text{ ft}^2$$

5.



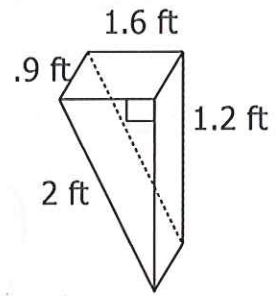
$$S.A. = (24\text{ mi} + 20\text{ mi} + 20\text{ mi}) \cdot 9\text{ mi} + 2\left(\frac{1}{2} \cdot 24\text{ mi} \cdot 16\text{ mi}\right)$$

$$S.A. = 64\text{ mi} \cdot 9\text{ mi} + 2(12\text{ mi} \cdot 16\text{ mi})$$

$$S.A. = 576\text{ mi}^2 + 384\text{ mi}^2$$

$$S.A. = \boxed{960\text{ mi}^2}$$

6.



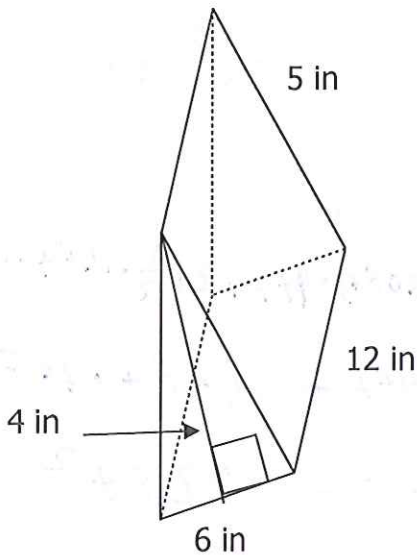
$$S.A. = (1.6\text{ ft} + 1.2\text{ ft} + 2\text{ ft}) \cdot 1.6\text{ ft} + 2\left(\frac{1}{2} \cdot 1.2\text{ ft} \cdot 0.9\text{ ft}\right)$$

$$S.A. = 4.8\text{ ft} \cdot 1.6\text{ ft} + 2(0.54\text{ ft}^2)$$

$$S.A. = 7.68\text{ ft}^2 + 1.08\text{ ft}^2$$

$$S.A. = \boxed{8.76\text{ ft}^2}$$

7.



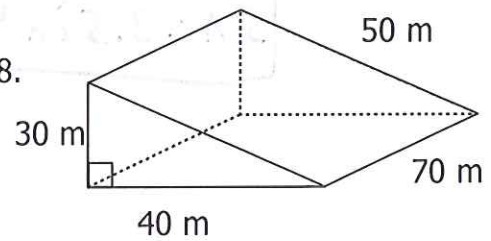
$$S.A. = (6\text{ in} + 5\text{ in} + 5\text{ in}) \cdot 6\text{ in} + 2\left(\frac{1}{2} \cdot 4\text{ in} \cdot 6\text{ in}\right)$$

$$S.A. = 16\text{ in} \cdot 6\text{ in} + 2(12\text{ in}^2)$$

$$S.A. = 96\text{ in}^2 + 24\text{ in}^2$$

$$S.A. = \boxed{120\text{ in}^2}$$

8.



$$S.A. = (30\text{ m} + 40\text{ m} + 50\text{ m}) \cdot 30\text{ m} + 2\left(\frac{1}{2} \cdot 30\text{ m} \cdot 40\text{ m}\right)$$

$$S.A. = 120\text{ m} \cdot 30\text{ m} + 2(600\text{ m}^2)$$

$$S.A. = 3600\text{ m}^2 + 1200\text{ m}^2$$

$$S.A. = \boxed{4800\text{ m}^2}$$