

Unit 4: Geometry Review

Name: _____

Date: _____ Period: _____

1. Explain how to find the volume of a triangular prism?

$V = Bh$ find the area of the base (triangular face) & multiply with the height of the prism.

2. What is surface area?

Is the area of all the faces of a solid combined (added up).

Sketch the following solid figures.

3. triangular pyramid



4. rectangular prism



5. triangular prism

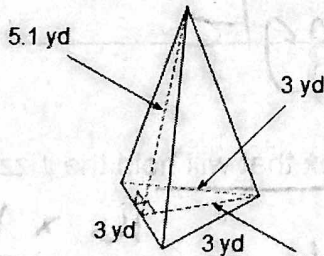


6. square pyramid



Find the surface area of each figure.

7.

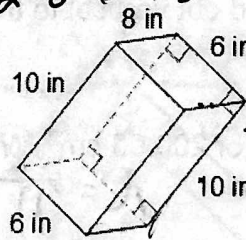


$\frac{1}{2} \cdot 2.6 \cdot 3 = 3.9$

3 times (faces) $\frac{1}{2} \cdot 3 \cdot 5.1 = 7.65$
 $3 \left(\frac{1}{2} \cdot 3 \cdot 5.1 \right) = 22.95$
 26.85 yd^2

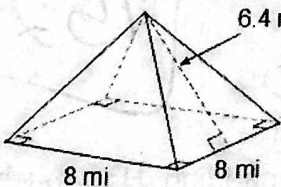
8.

$2lw + 2lh + 2wh$
 $2 \cdot 8 \cdot 6 + 2 \cdot 8 \cdot 10 + 2 \cdot 6 \cdot 10$
 $96 + 160 + 120$
 376 in^2



9.

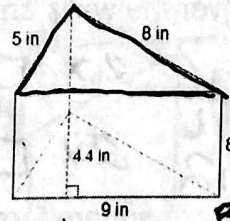
$5^2 = 8^2 = 64$



4 times $\frac{1}{2} \cdot 8 \cdot 6.4 = 204.8$

260.8 mi^2
 166.4

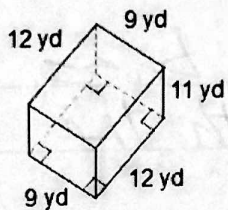
10.



2 times $\frac{1}{2} \cdot 9 \cdot 4.4 = 39.6$
 $5 \cdot 5.8 = 40$
 $8 \cdot 8 = 64$
 $8 \cdot 9 = 72$
 215.6 in^2

Find the volume of the figures.

11.



$$V = Bh$$

$$V = lwh$$

$$9 \cdot 11 \cdot 12 =$$

$$V = 1188 \text{ yd}^3$$

Name the 2-dimensional shape made by each cross-section.

14. a triangular pyramid cut parallel to the base.

triangle

15. a triangular prism cut perpendicular to the base.

rectangle

16. a cone cut horizontal to the base.

circle

17. a rectangular pyramid cut vertical to the base.

triangle

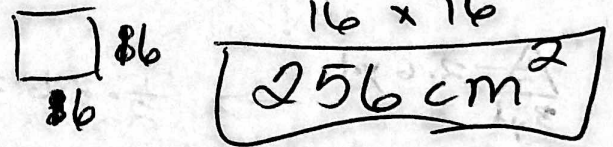
18. A pizza has an area of 200.96 cm^2 . What is the minimum size of a box that will hold the pizza. Use 3.14 for π .

$$A = 200.96 \text{ cm}^2$$

$$A = \pi r^2$$

$$\frac{200.96}{3.14} = \frac{\pi r^2}{\pi}$$

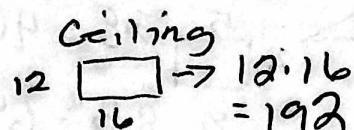
$$\sqrt{64} = \sqrt{r^2} \quad r = 8 \text{ cm} \rightarrow d = 16 \text{ cm}$$



$$16 \times 16$$

$$256 \text{ cm}^2$$

19. You want to paint your room including the 4 walls and the ceiling. The dimensions of your rectangular room are 12 feet by 16 feet and your ceiling is 10 feet high. How many square feet of paint will you need to cover the walls and ceiling?



$$2 \times \left[\begin{array}{|c|} \hline 12 \\ \hline 10 \\ \hline \end{array} \right] \cdot 12 \quad 2 \cdot 10 \cdot 12 = 240$$

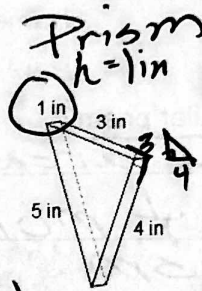
$$2 \times \left[\begin{array}{|c|} \hline 16 \\ \hline 10 \\ \hline \end{array} \right] \cdot 16 \quad 2 \cdot 10 \cdot 16 = 320$$

$$752 \text{ ft}^2$$

20. If carpet costs \$8.88 per square foot including installation and carpet padding. How much money will you need to carpet your room?

Carpet same as ceiling $192 \times 8.88 = \$1704.96$

12.



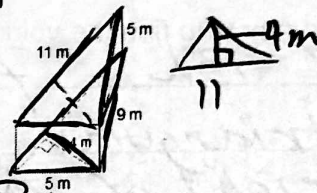
$$V = Bh$$

$$\left(\frac{1}{2}bh \right)h$$

$$V = \frac{1}{2} \cdot 3 \cdot 4 \cdot 1$$

$$V = 6 \text{ in}^3$$

13.



$$V = Bh$$

$$\left(\frac{1}{2}bh \right)h$$

$$V = \frac{1}{2} \cdot 11 \cdot 4 \cdot 9$$

$$V = 110 \text{ m}^3$$

h of prism = 5m