Math 6 - Unit 5: Area & Volume

End of Unit Test Review #2

Name: KEY

Class Period: 1 2 3 4 Date: _____

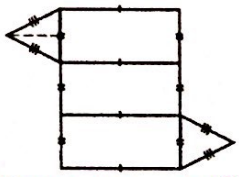
1) How could you determine the surface area of a triangular prism?

FIND THE AREA OF EACH FACE AND THEN ADD THEM TOGETHER.

2) Is painting your house a real world example of surface area or volume?

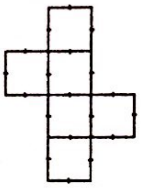
SURFACE AREA

3) What shape is formed by folding the following nets?

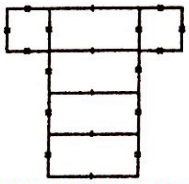


TRIANGULAR PRISM

SQUARE PYRAMID

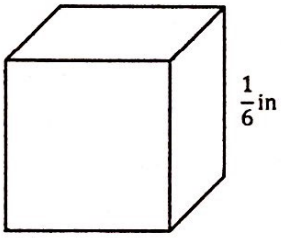


CUBE



RECTANGULAR PRISM

4)

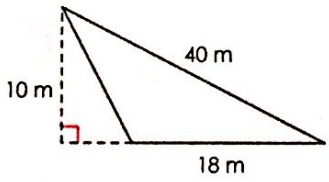


$V = Bh$ or $V = l \cdot w \cdot h$

$V = \frac{1}{6} \cdot \frac{1}{6} \cdot \frac{1}{6} = \frac{1}{216}$

Volume of the Cube: $\frac{1}{216}$ in^3

5)



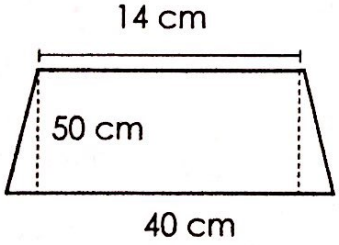
$A = \frac{1}{2}bh$

$A = \frac{1}{2}(10)$

$A = 90$

Area: 90 m^2

6)



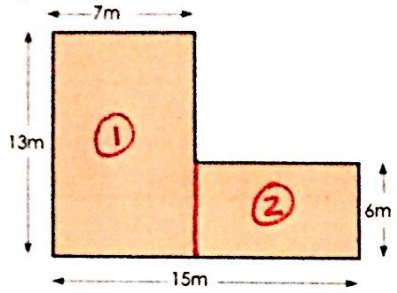
$A = h\left(\frac{b_1 + b_2}{2}\right)$ $A = 50\left(\frac{14 + 40}{2}\right)$

$A = 50\left(\frac{54}{2}\right)$

$A = 50 \cdot 27$

Area: 1,350 cm^2

7)



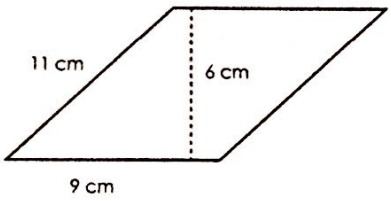
$A_1 = bh$ $\quad A_2 = bh$

$A_1 = 7(13)$ $\quad A_2 = 6(8)$

$A_1 = 91$ $\quad A_2 = 48$

Area: $139\ m^2$

8)



$A = bh$

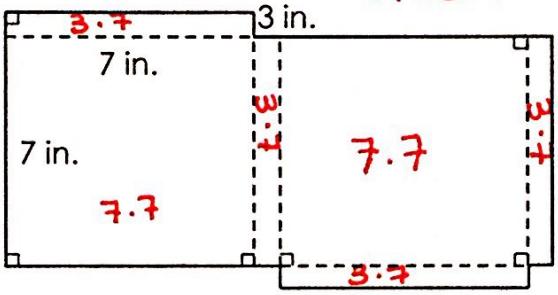
$A = 9 \cdot 6$

Area: $54\ cm^2$

9) A box is covered with wrapping paper with no overlap. The net of the box is shown below.

How many square inches of wrapping paper is needed to cover the surface area of the box?

$A = bh$

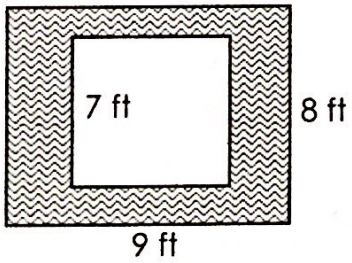


$21(4) = 84$

$+ 49(2) = 98$

Surface Area: $182\ in^2$

10) What is the area of the shaded frame?



$A = bh$

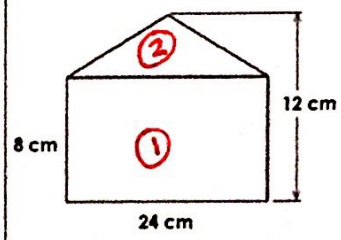
$A = 8 \cdot 9 = 72$

$A_{\square} = 7 \cdot 7 = 49$

$A_{\text{shaded}} = 72 - 49$

Area: $23\ ft^2$

11)



$A_1 = b \cdot h$

$A_1 = 24(8)$

$A_1 = 192$

$A_2 = \frac{1}{2}bh$

$A_2 = \frac{1}{2}(24)(4)$

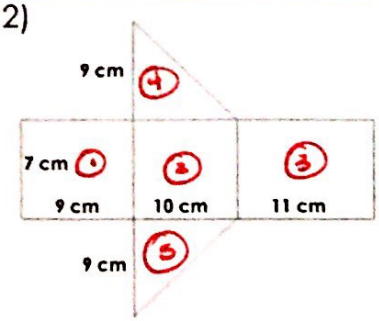
$A_2 = (12)(4) = 48$

$192 + 48 = 240$

Area: $240\ cm^2$

REV#2

12)



$A_1 = bh$ $A_3 = bh$ $A_4 = \frac{1}{2}bh$ $A_5 = \frac{1}{2}bh$

$A_1 = 7 \cdot 9$ $A_3 = 11(7)$ $A_4 = \frac{1}{2}(10)(9)$ $A_5 = \frac{1}{2}(10)(9)$

$A_1 = 63$ $A_3 = 77$ $A_4 = 5 \cdot 9$ $A_5 = 5(9)$

$A_4 = 45$ $A_5 = 45$

$A_2 = bh$

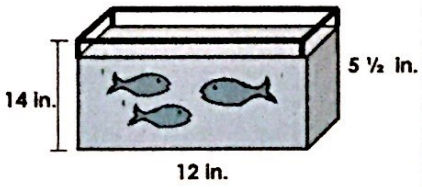
$A_2 = 10(7)$

$A_2 = 70$

$A = 63 + 77 + 45 + 45 + 70$

Surface Area: $275 cm^2$

13) A fish tank is shown below. How many cubic inches of water can fit inside the tank?



$V = (14)(12)(5\frac{1}{2})$

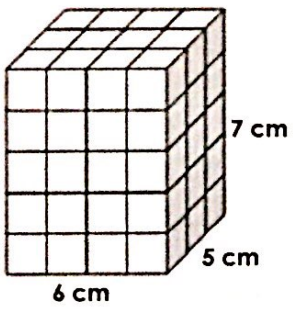
$V = (14)(12)(\frac{11}{2})$

$V = \frac{14}{1}(\frac{12}{1})(\frac{11}{2_1})$

$V = 924$

Volume: $924 in^3$

14)



F $A = bh = 6 \cdot 7 = 42$

B $= 42$

S $A = bh = 5 \cdot 7 = 35$

S $= 35$

T $A = bh = 5 \cdot 6 = 30$

B $= 30$

Total Square cm needed to wrap the outside of the box:

Surface Area: $214 cm^2$

15) How much paper is needed to wrap a cube ~~with a side length~~ of 12 cm?

SA = $6(12)(12)$ $864 cm^2$

16) Draw a net that could be folded to make a triangular pyramid.

17) A rectangular pool is 12 feet long, 16 ½ feet wide, and 8 feet deep. How many cubic feet of water can it hold?

$V = (12)(16\frac{1}{2})(8) = \frac{12}{1}(\frac{33}{2})(8) = 1584 ft^3$

18) Does the following situation relate to surface area or volume? How much orange juice in a carton.

VOLUME

REV #2