Name Schlansky
Mr. Schlansky

Date _____
Geometry

Surface Area

1. Mrs. Ayer is painting the outside of her son's toy box, including the top and bottom. The toy box measures 3 feet long, 1.5 feet wide, and 2 feet high. What is the total surface area she will paint?

1) 9.0 ft^2
2) 13.5 ft^2
3) 22.5 ft^2
4) 27.0 ft^2

$SA = 2lw + 2lh + 2wh$
$SA = 2(3)(1.5) + 2(2)(1.5) + 2(3)(2)$
$SA = 27$

$l = 3$
$w = 1.5$
$h = 2$

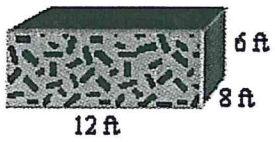
2. How many square inches of wrapping paper are needed to entirely cover a box that is 2 inches by 3 inches by 4 inches?

1) 18
2) 24
3) 26
4) 52

$2(2)(3) + 2(4)(3) + 2(2)(4)$
52

$l = 2$
$w = 3$
$h = 4$

3. Carlos is preparing to sculpt a large rectangular block of stone.



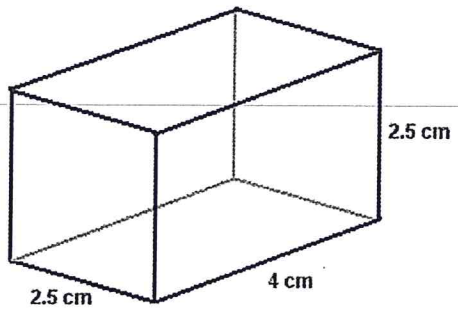
$2(6)(8) + 2(6)(12) + 2(8)(12)$

What is the surface area of this prism?

$432\ ft^2$

4. What is the surface area of the rectangular solid shown in the diagram?

1. 45 cm^3
2. 22.5 cm^2
3. 52.5 cm^2
4. 90 cm^2



$2(2.5)(4) + 2(2.5)(2.5) + 2(4)(2.5)$

l w h

5. What is the surface area of a box whose dimensions are 3 cm by 8 cm by 7 cm?

$2(3)(8)+2(3)(7)+2(8)(7)$

$202\ cm^2$

6. Dave wants to wrap a Blu Ray player for his girlfriend for Christmas. The dimensions of the box are 12 in by 14 in by 4 in. How much wrapping paper does Dave need?

$2(12)(14)+2(12)(4)+2(14)(4)$

$544\ in^2$

7. A gallon of paint will cover approximately 450 square feet. An artist wants to paint all the outside surfaces of a cube measuring 12 feet on each edge. What is the *least* number of gallons of paint he must buy to paint the cube?

1) 1
2) 2
3) 3
4) 4

$2(12)(12)+2(12)(12)+2(12)(12)$

864 square feet

$\frac{864}{450}=1.92$

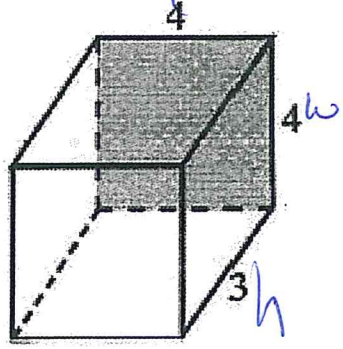
2 gallons

8. Calculate the surface area of the accompanying prism.

$2lw+2lh+2wh$

$2(4)(4)+2(3)(4)+2(4)(3)$

80 units^2



9. What is the volume of a cylinder whose height is 12 inches and whose diameter is 20 inches in terms of π?

$2\pi r^2$

$2\pi(10)^2=200\pi$

$200\pi+240\pi=440\pi$

$\pi d(h)$

$\pi(20)(14)=240\pi$