4/5/17 CCM6

Solve problems in real-world contexts involving SA and V of prisms and pyramids.

1. Agenda...HW is pages 33-34...QUIZ SA tom

2. Get out pages 30-31 from yesterday

3. No warm-ups this week

$P30$

13.

A DVR box measures 17 inches by 15 inches by 3 inches. What is the minimum surface area of a box needed to hold the DVR box?

14.

Casey is wrapping a present that is in a box with a length of 19 cm, a width of 15 cm and a height of 20 cm. If wrapping paper costs $0.04 per square cm, how much will she spend on wrapping paper?

15. $7 \times \cancel{8} \times 2 = 112$

The volume of a rectangular prism is 112 cubic inches. The prism has a height of 7 inches and a width of 8 inches. Find the surface area of this prism.
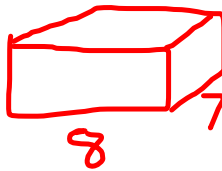
$T = 8 \times 7 = 56$
$B = \quad 56$
$F = \quad 14$
$K = 7 \times 2 = 14$
$E = 8 \times 2 = 16$
$+ \quad B \quad 16$

$S.A = 172 \, in^2$

16.

Apple is deciding which box to use for their new iPad. The first box measures 8 in by 6.25 in by 10.5 in. The second box measures 9 in by 5.5 in by 11.75 in. Which box would require more material to make?

$8 \times 6.25 = 50$
50
$6.25 \times 10.5 = 65.625$
65.625
$8 \times 10.5 = 84$
84
$+$
$399.25 \, in^2$

$9 \times 5.5 = 49.5$
49.5
$11.75 \times 5.5 = 64.625$
64.625
$11.75 \times 9 = 105.75$
105.75
$+$
$439.75 \, in^2$

17.

Ashley is baking a rectangular cake that is 9 in wide, 13 in long and 2 in high. She removes the cake from the pan to frost it. How many square inches of frosting does she need?
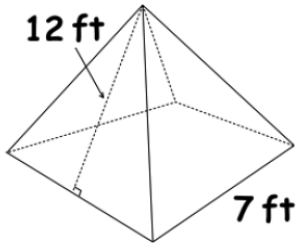*She does not frost the bottom!*

18.

Your school gym is 45 ft long, 30 ft wide, and 14 ft high. They are going to paint the four walls and the ceiling of the gym. If one gallon of paint costs $12.50 and can cover 300 ft^2, how much will it cost your school to paint?
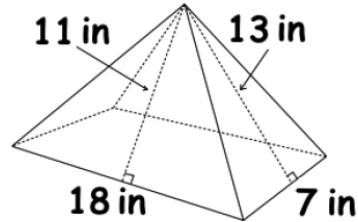
2

ρ 31

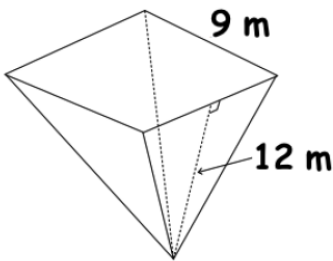1. Find the surface area.

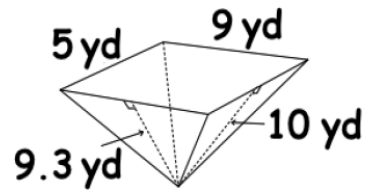12 ft

7 ft

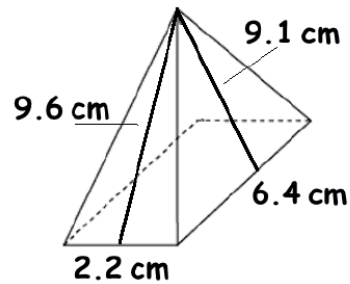2. Find the surface area.

11 in   13 in

18 in   7 in

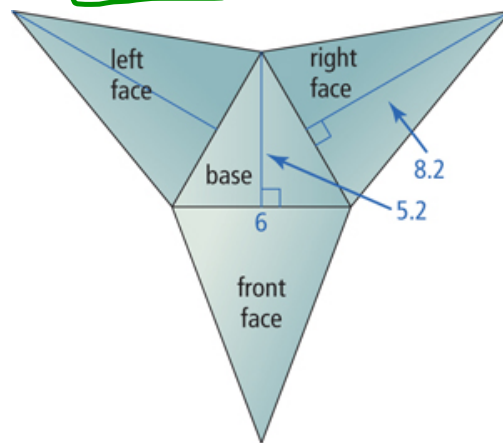3. Find the surface area.

9 m

12 m

4. Find the surface area.

5 yd   9 yd
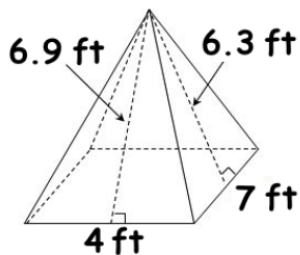
10 yd

9.3 yd

5. Find the surface area.

6.9 ft   6.3 ft

7 ft

4 ft

6. Find the surface area.

9.1 cm

9.6 cm

6.4 cm

2.2 cm

3

Review SA for QUIZ tomorrow

3

2   3   2

3
2
4
4
2
3

6
4
3
4

6 cm

4 cm

left face   right face

base   8.2
6   5.2

front face

Review SA for QUIZ tomorrow

SA=84 sq units

6
3
x2
24 6 24 24
6

SA=52 sq units

8 12 8 12
6
6

12
3
6 cm
12 16 12
4 cm
12

SA=64 cm²

24.6 left face
right face 24.6
15.43 base x6
8.2
5.2
13
front face
24.6
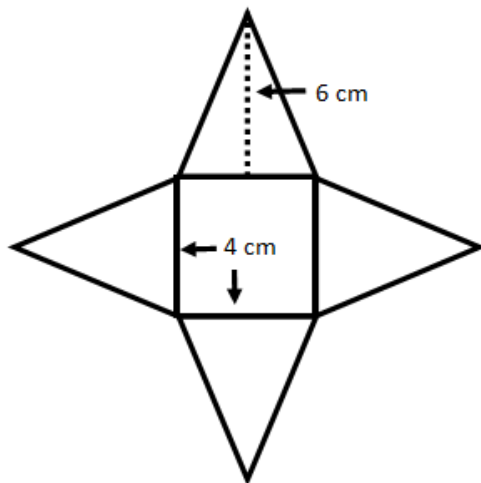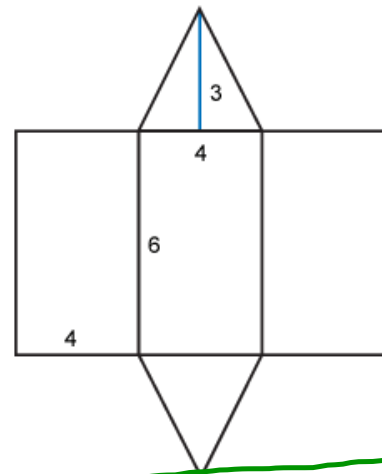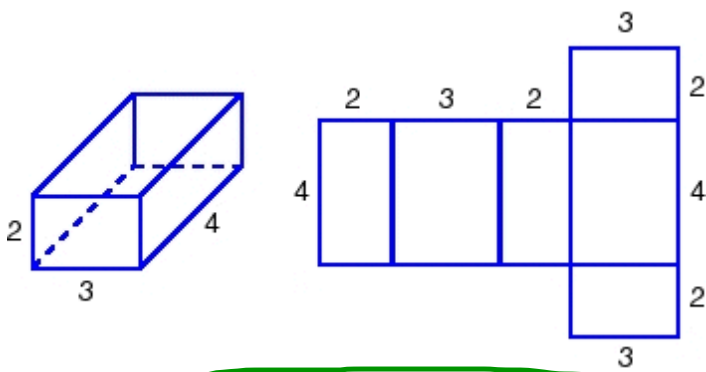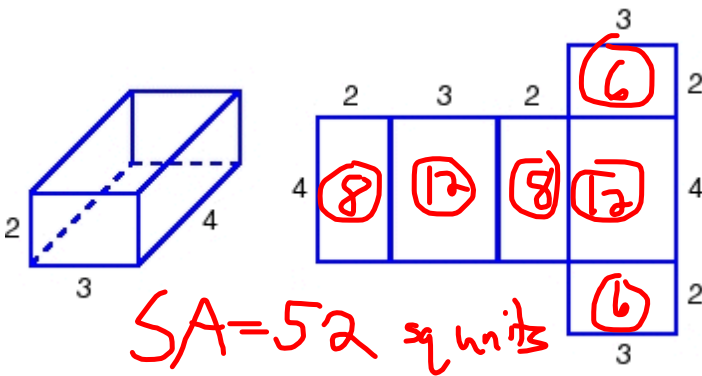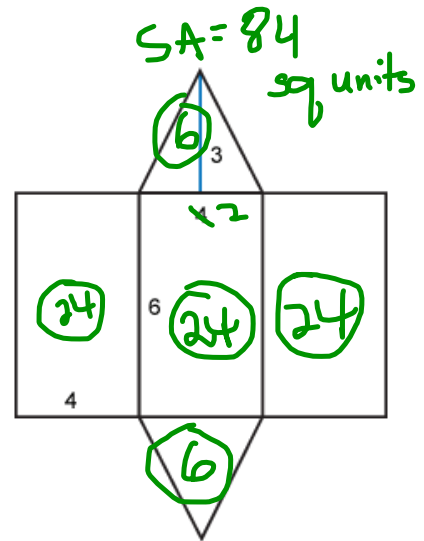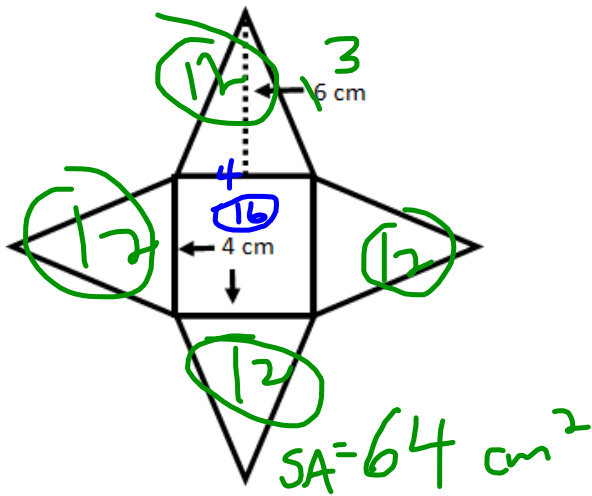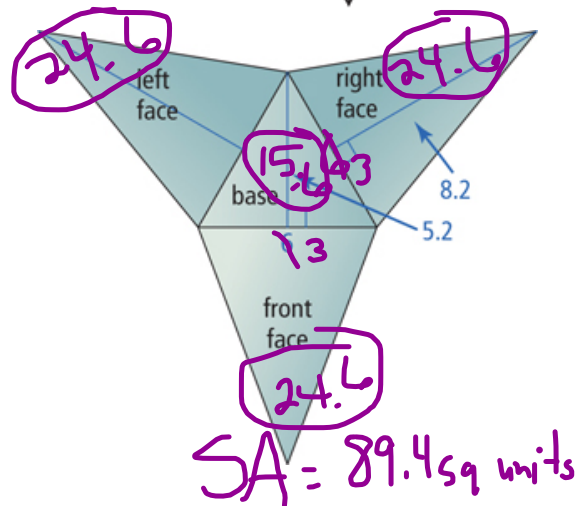
SA = 89.4 sq units
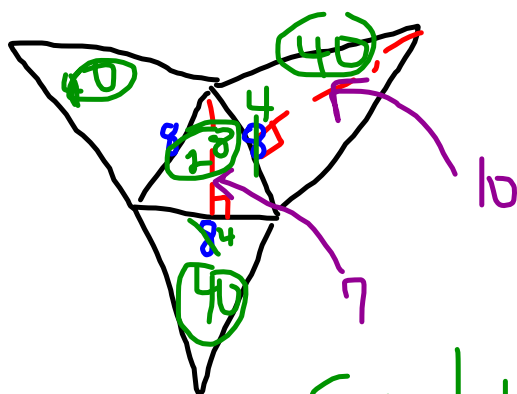
SA = 148 sq units

Problem-Solving...

INSIDE? you're finding _____*Volume*_____

OUTSIDE? you're finding _____*SA*_____

HW P33 #5

PROBLEM SOLVING WITH VOLUME AND SURFACE AREA

Directions:

(1) Choose & write whether the problem is asking you to find <u>SURFACE AREA</u> or <u>VOLUME</u>
(2) Write the formula (if needed) which you would use to solve the problem.
(3) Do STEPS 1 & 2 for all problems before you start solving so we can make sure everyone has the correct formulas to start ☺
(4) Solve
(5) Label your answer with the correct units

1. Elena wants to paint her jewelry box blue. The jewelry box is in the shape of a cube and has an edge length of 4 in. How much blue paint will Elena need?

$$SA = 16 \times 6 = 96 \, in^2$$

2. Nicholas has a pepper shaker in the shape of a cylinder. It has a radius of 9 mm and a height of 32 mm. How much pepper will fit in the shaker?

3. Reynaldo builds a pool in his backyard. The pool measures 55 feet long, 28 feet wide, and 9 feet deep. How much water will fit in the pool?

$$V = 55 \times 28 \times 9 = 13,860 \, ft^2$$

4. How many square feet of cardboard does Jessica need to make a rectangular prism with length of 16 inches, width of 9 inches, and height of 4 inches?
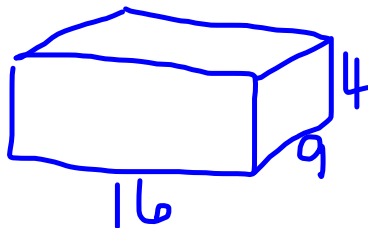
$$SA = 488 \, in^2$$

T $16 \times 9 = 144$
B $= 144$
L $= 36$
R $9 \times 4 = 36$
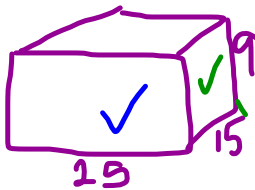F $16 \times 4 = 64$
B 64

5. How much gift wrap is needed to cover a box which measures 3 feet by 2 feet by 3 feet?

HW p36 #6

6. A package shaped like a cube has an edge that is 28 cm long. How much space is available to pack inside the box?

7. A cylindrical fish tank is 1 foot tall. The radius of the fish tank is 3 inches. How much water does it take to fill the tank? (Be careful – look at the units you are given)

8. Kissie needs to paint the **_top and sides_** of a rectangular prism. The prism has a length of 25 mm, a width of 15 mm, and a height of 9 mm. How much paint does she need to cover the **_top and sides_**?

$$F \quad 25 \times 9 = 225$$
$$B \qquad = 225$$
$$L \qquad = 135$$
$$R \quad 15 \times 9 = 135$$
$$T \quad 25 \times 15 = 375$$
$$B$$

$$SA = 1095 \text{ mm}^2$$

9. Brittany is going to cover the label on a Pringle's can and decorate it for Easter. The can has a diameter of 4.5 in. and a height of 14 in. She only needs to cover the label, not the top or bottom of the can, what is the minimum amount of paper needed?

10. A cereal company decided to make an odd-shaped box for a promotion they are doing. The new design is a rectangular prism with length of 10 in, width of 8 in., and height of 4 in. and attached to the rectangular prism is a cylinder with a radius of 2 in. and a height of 10 in. How much cereal will fit in the box?