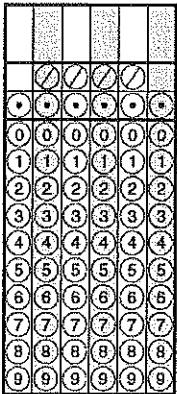
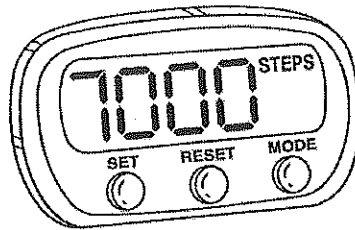


Day 1- March 24 (Conversions)

1. Val calculates that with each step she walks she travels 2 feet. The distance from her home to school is 3,000 yards. After taking 15 steps, how many more yards does she have to walk to school?



2. Maddie is camping with her family. They want to hike 5 miles on the first day. Maddie's pedometer shows they hiked 7,000 steps before they stopped for lunch.



It takes about 2,000 steps to walk a mile. How many more kilometers must they walk to reach their goal of 5 miles?

- A. 2.415 kilometers
 - B. 3.22 kilometers
 - C. 5.635 kilometers
 - D. 8.05 kilometers
3. The table below shows the typical serving size for various breakfast foods.

Serving Sizes	
Oatmeal	42 grams
Banana	100 grams
Cereal	115 grams
Toast	60 grams

If Cindy has two servings of cereal for breakfast, how many ounces of cereal will she eat?

- A. about 8 ounces
- B. about 7 ounces
- C. about 4 ounces
- D. about 3 ounces

4. The average high temperature in Miami in June is 86°F. What is this temperature in degrees Celsius?

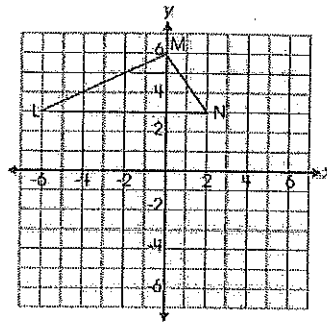
	/	/	/	/	
*	*	*	*	*	*
0	0	0	0	0	0
1	1	1	1	1	1
2	2	2	2	2	2
3	3	3	3	3	3
4	4	4	4	4	4
5	5	5	5	5	5
6	6	6	6	6	8
7	7	7	7	7	7
8	8	8	8	8	8
9	9	9	9	9	9

5. Carlotta runs 14,520 feet every day. How many meters does she run in a 7-day period?
- A. about 4,400 meters
 - B. about 6,800 meters
 - C. about 31,000 meters
 - D. about 47,600 meters

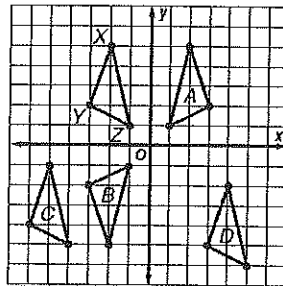
Day 2-March 25 (Transformations)

1. Triangle LMN is shown on the graph. Triangle LMN is translated three units to the right and two units down. What are the coordinates of the vertices for triangle $L' M' N'$?

- A. $L'(-3, 1)$, $M'(3, 4)$, $N'(5, 1)$
 B. $L'(-4, 1)$, $M'(5, 1)$, $N'(2, 4)$
 C. $L'(5, 1)$, $M'(3, 1)$, $N'(2, 4)$
 D. $L'(4, 3)$, $M'(1, 5)$, $N'(1, -3)$

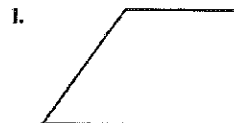
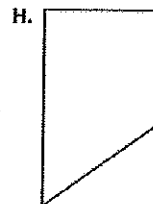
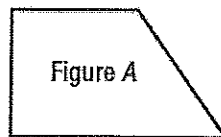


2. Which triangle shows a reflection of $\triangle XYZ$ across the x-axis?

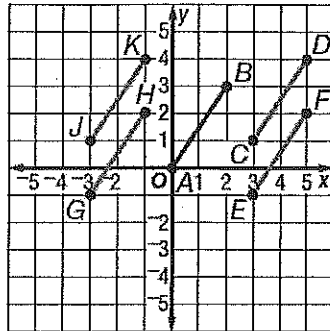


- A. $\triangle A$ C. $\triangle C$
 B. $\triangle B$ D. $\triangle D$

3. Which of the figures below does NOT show a dilation of Figure A?

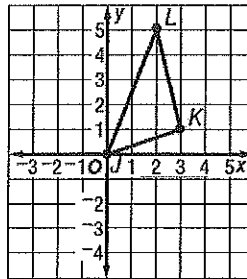


4. The endpoints of \overline{AB} are at $A(0, 0)$ and $B(2, 3)$.



Which line segment represents a translation of 3 units to the left and 1 unit down?

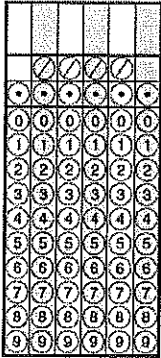
- F. \overline{CD}
- G. \overline{EF}
- H. \overline{GH}
- I. \overline{JK}
5. If $\triangle JKL$ is rotated 90 degrees counterclockwise about the origin, what would be the coordinate of the new vertex K' ?



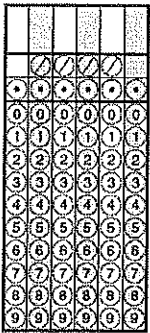
- F. $(-3, 1)$
- G. $(-3, -1)$
- H. $(-1, -3)$
- I. $(-1, 3)$

Day 3-March 26 (Volume and Surface Area)

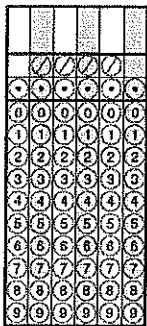
1. The cargo-carrying part of Billy's truck has a length of 8 meters, a width of 3 meters, and a height of 4 meters. What is the maximum volume of sand that Billy's truck can carry?



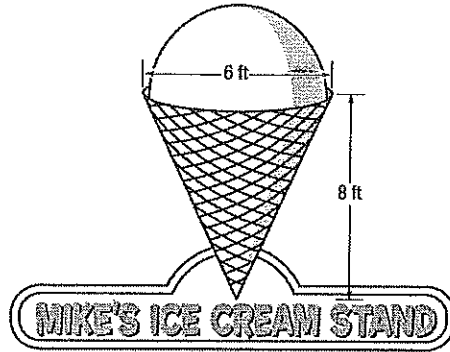
2. A packaging company needs to know how much cardboard will be required to make boxes 18 inches long, 12 inches wide, and 10 inches high. How much cardboard will be needed for each box if there is no overlap in the construction?



3. Brooke is making a cylindrical bolster pillow for her couch. The pillow is 18 inches long and has a radius of 5 inches. Find the amount of fabric needed for the pillow. Round to the nearest tenth.



4. Mike's Ice Cream Stand has a giant ice cream cone on its rooftop. The cone is 8 feet tall with a diameter of 6 feet.



What is the volume of the cone to the nearest hundredth? Use 3.14 for π .

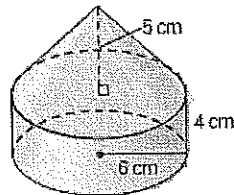
- A. 25.12 cubic feet
- B. 75.36 cubic feet
- C. 200.96 cubic feet
- D. 226.08 cubic feet

5. The volume of a square prism is 250 cubic feet. What is the height of the prism if one side of the base is 5 feet?

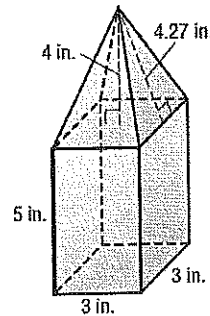
- A. 5 feet
- B. 10 feet
- C. 50 feet
- D. 125 feet

Day 4-March 27 (Volume and Surface Area of Composite Shapes)

1. Find the volume of the composite figure. Round to the nearest tenth.

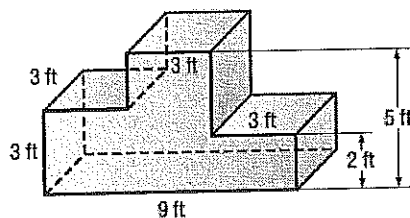


2. Kim built a birdhouse. It is a square-base pyramid sitting on top of a square prism as shown below.



Kim wants to paint the birdhouse, top to bottom. What is the total external surface area of the birdhouse?

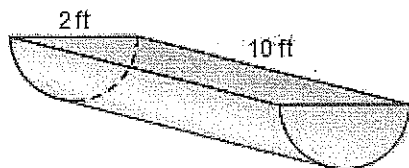
- A. 64.62 square inches
 - B. 85.62 square inches
 - C. 94.62 square inches
 - D. 103.62 square inches
3. Janisa is constructing a podium for an awards ceremony. The dimensions of the podium are shown in the diagram below.



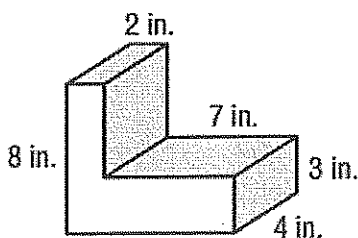
What is the total volume of the podium?

- F. 135 cubic feet
- G. 108 cubic feet
- H. 99 cubic feet
- I. 90 cubic feet

4. Find the surface area of the half-log shown.



5. Fort Matanzas in St. Augustine was used during the colonial wars. It became a National Monument in 1924. Ben made a model of the fort as a school project. He painted four of the model's faces in gray, as shown below.

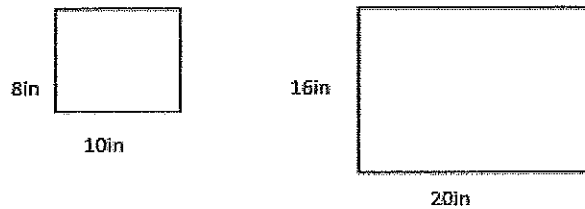


How many square inches of gray paint did Ben use?

- F. 68 in^2 H. 37 in^2
G. 48 in^2 I. 27 in^2

Day 5- March 28 (Change in Dimension affects perimeter, surface area, and volume)

1. Mary drew a picture that was 8 inches wide and 10 inches long. In order to display the picture on her wall, her mother enlarged it by 2 times the length and 2 times the width. What is the perimeter of the new picture?

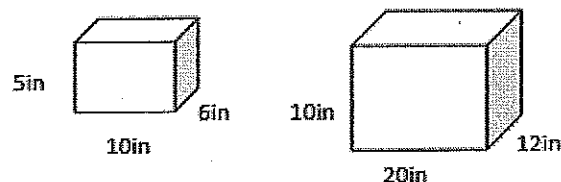


2. In the diagram below, figure 1 is a square and figure 2 is a rectangle. How does the area of figure 1 compare to the area of figure 2?

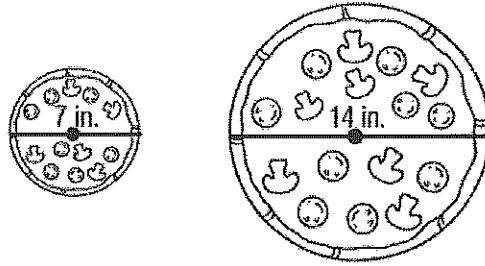


- A. The area of figure 1 is twice the area of figure 2
B. The area of figure 1 is one-third the area of figure 2
C. The area of figure 1 is one-half the area of figure 2
D. The area of figure 1 is one-fourth the area of figure 2

3. A company was trying to find a better box to hold more of their product when shipping it to the local stores. The original box had a width of 6 inches, a length of 10 inches, and a height of 5 inches. The designers of the new box decided to double all the dimensions. What is the volume of the new box? How much larger is the new box than the original box?

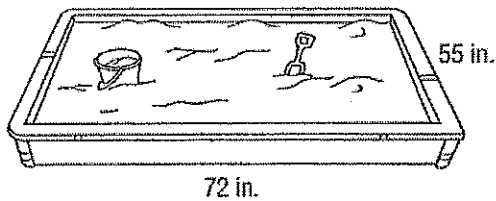


4. A 7-inch pizza costs \$3.90. The cost of the pizza is based on its area. How much does a 14-inch pizza cost?



- A. \$3.90
- B. \$7.80
- C. \$11.70
- D. \$15.60

5. Mr. Smith sells two sizes of children's sandboxes. The base of the smaller sandbox measures 72 inches by 55 inches as shown below.



If the larger sandbox is twice the length and width of the smaller sandbox, what is the area of the base of the larger sandbox?

- F. 3,960 square inches
- G. 7,920 square inches
- H. 11,880 square inches
- I. 15,840 square inches

Name _____

Example Reference Sheet

Example 1 – Day 1

Convert 5 pounds into ounces.

$$5 \text{ lb} = 5 \text{ lb} \cdot \frac{16 \text{ oz}}{1 \text{ lb}} \quad \text{Multiply by the unit ratio } \frac{16 \text{ oz}}{1 \text{ lb}}$$

$$= 5 \cancel{\text{ lb}} \cdot \frac{16 \text{ oz}}{1 \cancel{\text{ lb}}} \quad \text{Divide out common units.}$$

$$= 80 \text{ oz} \quad \text{Multiply.}$$

So, 5 pounds = 80 ounces.

Example 2 – Day 1

Convert 62 centimeters to meters.

Use the relationship 1 cm = 0.01 m.

$$1 \text{ cm} = 0.01 \text{ m} \quad \text{Write the relationship.}$$

$$62 \times 1 \text{ cm} = 62 \times 0.01 \text{ m} \quad \text{Multiply each side by 62.}$$

$$62 \text{ cm} = 0.62 \text{ m}$$

Example 3 – Day 1

Convert 36.5 inches to centimeters. Round to the nearest hundredth if necessary.

Since 1 inch \approx 2.54 centimeters, use the ratio $\frac{2.54 \text{ cm}}{1 \text{ in}}$.

$$36.5 \text{ in.} \approx 36.5 \text{ in.} \times \frac{2.54 \text{ cm}}{1 \text{ in.}} \quad \text{Multiply.}$$

$$\approx 36.5 \cancel{\text{ in.}} \times \frac{2.54 \text{ cm}}{1 \cancel{\text{ in.}}} \quad \text{Divide out common units.}$$

$$\approx 36.5 \times 2.54 \text{ cm or } 92.71 \text{ cm}$$

So, 36.5 inches is approximately 92.71 centimeters.

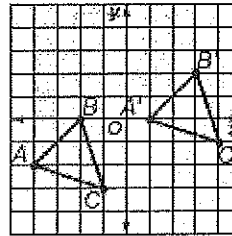
Example 4 – Day 2

Triangle ABC has vertices $A(-4, -2)$, $B(-2, 0)$, and $C(-1, -3)$. Find the vertices of triangle $A'B'C'$ after a translation of 5 units right and 2 units up.

Add 5 to each x -coordinate. Add 2 to each y -coordinate.

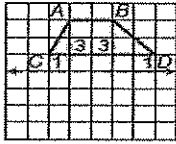
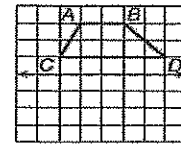
Vertices of ABC	$(x + 5, y + 2)$	Vertices of $A'B'C'$
$A(-4, -2)$	$(-4 + 5, -2 + 2)$	$A'(1, 0)$
$B(-2, 0)$	$(-2 + 5, 0 + 2)$	$B'(3, 2)$
$C(-1, -3)$	$(-1 + 5, -3 + 2)$	$C'(4, -1)$

The coordinates of the vertices of $A'B'C'$ are $A'(1, 0)$, $B'(3, 2)$, and $C'(4, -1)$.

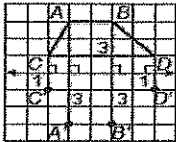


Example 5 – Day 2

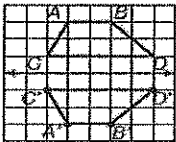
Draw the image of quadrilateral $ABCD$ after a reflection over the given line.



Step 1 Count the number of units between each vertex and the line of reflection.



Step 2 To find the corresponding point for vertex A , move along the line through vertex A perpendicular to the line of reflection until you are 3 units from the line on the opposite side. Draw a point and label it A' . Repeat for each vertex.

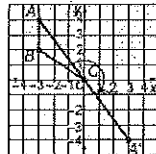


Step 3 Connect the new vertices to form quadrilateral $A'B'C'D'$.

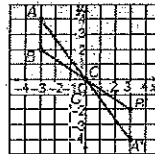
Notice that if you move along quadrilateral $ABCD$ from A to B to C to D , you are moving in the clockwise direction. However, if you move along quadrilateral $A'B'C'D'$ from A' to B' to C' to D' , you are moving in the counterclockwise direction. A figure and its reflection have opposite orientations.

Example 6 – Day 2

Triangle ABC has vertices $A(-3, 4)$, $B(-3, 2)$, $C(0, 0)$. Rotate triangle ABC clockwise 180° about the origin.



- Step 1** Graph triangle ABC on a coordinate plane.
- Step 2** Sketch segment AO connecting point A to the origin. Sketch another segment $A'O$ so that the angle between points A, O , and A' measures 180° and the segment is congruent to AO .
- Step 3** Repeat for point B (point C won't move since it is at the origin). Then connect the vertices to form triangle $A'B'C'$.



Example 7 – Day 3

Find the volume of the rectangular prism.

$$V = \ell wh$$

Volume of a rectangular prism

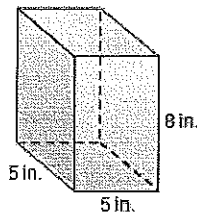
$$V = 5 \cdot 5 \cdot 8$$

Replace with 5, w with 5, and h with 8.

$$V = 200$$

Multiply.

The volume is 200 cubic inches.



Example 8 – Day 3

Find the volume of the cone.
Round to the nearest tenth.

$$V = \frac{1}{3}\pi r^2 h$$

Volume of a cone

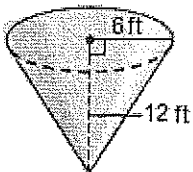
$$V = \frac{1}{3}(\pi \cdot 5^2 \cdot 12)$$

$r = 5$ and $h = 12$

$$V \approx 314$$

Simplify.

The volume is about 314 cubic feet.



Example 9 – Day 3

Find the surface area of the rectangular prism.

Faces	Area
top and bottom	$2(5 \cdot 3) = 24$
front and back	$2(5 \cdot 2) = 16$
two sides	$2(2 \cdot 3) = 12$
sum of the areas	$30 + 20 + 12 = 62$

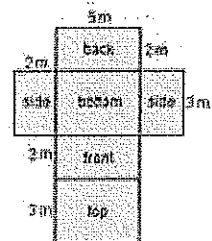
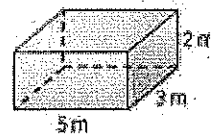
Alternatively, replace ℓ with 5, w with 3, and h with 2 in the formula for surface area.

$$S.A. = 2(\ell w) + 2(\ell h) + 2(hw)$$

$$= 2(5 \cdot 3) + 2(5 \cdot 2) + 2(3 \cdot 2)$$

$$= 30 + 20 + 12$$

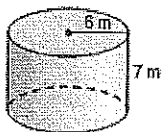
$$= 62$$



Name _____

Example 10 – Day 3

Find the surface area of the cylinder.
Round to the nearest tenth.



$$S.A. = 2\pi rh + 2\pi r^2$$

Surface area of a cylinder

$$S.A. = 2\pi(6)(7) + 2\pi(6)^2$$

Replace r with 6 and h with 7.

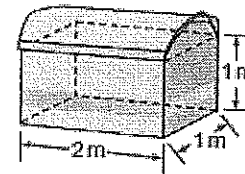
$$S.A. \approx 489.84$$

Simplify

The surface area of the cylinder is about 489.84 square meters.

Example 11 – Day 4

Find the volume of the composite figure. Round to the nearest tenth.



The figure is made up of a rectangular prism and half a cylinder.

$$V = \ell wh + \frac{1}{2} \pi r^2 h$$

$$V = 2 \cdot 1 \cdot 1 + \frac{1}{2} \pi (0.5)^2 \cdot 2$$

$$V \approx 2 + 0.785 \text{ or } 2.785$$

The volume of the composite figure is about 2.8 cubic meters.

Example 12 – Day 5

The surface area of a rectangular prism is 144 square centimeters. Find the surface area of a similar prism that is larger by a scale factor of 4.

$$S.A. = 144 \cdot 4^2$$

Multiply by the square of the scale

$$S.A. = 144 \cdot 16$$

Square 4.

$$S.A. = 2,304 \text{ cm}^2$$

Simplify.

For similar solids A and B :

$$\text{Volume of } B = (\text{volume of } A) \times (\text{scale factor})^3$$