



Essential Questions	Answers
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10.	

Name: \_\_\_\_\_ Date: \_\_\_\_\_ Week: \_\_\_\_\_

**“Warm-up Q1W10”**

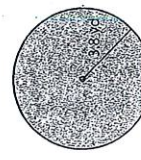
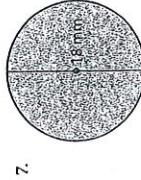
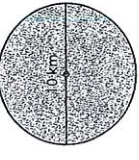
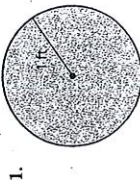
<p><b>Monday Warm-up</b> In 2005, the population in a certain country was about <math>2.87 \times 10^8</math>. Spending for nursing home care was about \$5,745 per person. Approximately how much did that country spend on nursing home care in 2005?</p> <p>A. <math>\\$1.65 \times 10^4</math> B. <math>\\$16.5 \times 10^{12}</math> C. <math>\\$.165 \times 10^8</math> D. <math>\\$1.65 \times 10^{12}</math></p>	<p>Show your work.</p>
<p><b>Tuesday Warm-up</b> How many years does it take to earn <math>10^6</math> dollars if you were paid \$30 an hour and worked 35 hours a week for 50 weeks a year?</p> <p>A. 18 – 19 years B. 19 – 20 years C. 20 – 21 years D. 22 – 23 years</p>	<p>Show your work.</p>
<p><b>Wednesday Warm-up</b> Mrs. Jones gave her students a scavenger hunt map to find buried treasures. The students had to travel from point R(-13, -2) to point S(2,-2) to point T (2,6) and back to point R. What is the total distance traveled?</p>	<p>Show your work.</p>
<p><b>Thursday Warm-up</b> The human ear grows at about <math>8.78 \times 10^{-3}</math> inches a year. How much larger does the human ear grow in a month than a day?</p> <p>A. 100 times B. 87 times C. 30.4 times D. 0.033 times</p>	<p>Show your work.</p>



# Math Skills Study Guide

## Area of Circles

Find the area of each circle to the nearest tenth. Use 3.14 for  $\pi$ .



10. What is the area of a circle whose radius is 4.2 yards?

11. Find the area of a circle with a diameter of 13 meters.

12. What is the area of a circle whose radius is 6.6 inches?

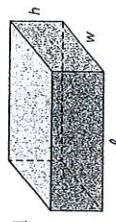
# Math Skills Study Guide

## Surface Area of Rectangular Prisms

The surface area  $S$  of a rectangular prism with length  $\ell$ , width  $w$ , and height  $h$  is the sum of the areas of the faces.

Symbols  $S = 2\ell w + 2\ell h + 2wh$

Model



**EXAMPLE 1** Find the surface area of the rectangular prism.

Find the area of each face.

top and bottom

$2(\ell w) = 2(8 \times 5) = 80$

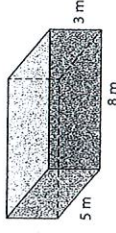
front and back

$2(\ell h) = 2(8 \times 3) = 48$

two sides

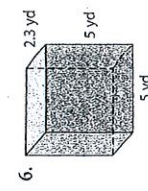
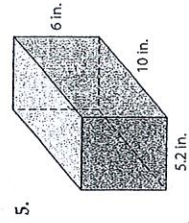
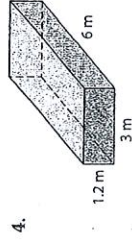
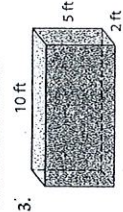
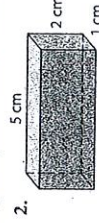
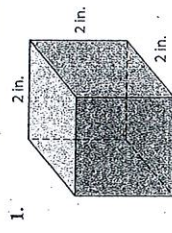
$2(wh) = 2(5 \times 3) = 30$

Add to find the surface area. The surface area is  $80 + 48 + 30$  or 158 square meters.



### EXERCISES

Find the surface area of each rectangular prism. Round decimals to the nearest tenth.



# Math Skills Study Guide

## Surface Area of Rectangular Prisms

Find the surface area of each rectangular prism. Round decimals to the nearest tenth.

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# Math Skills Study Guide

## Volume of Rectangular Prisms

The volume of a solid is the measure of space occupied by it. It is measured in cubic units such as cubic centimeters (cm<sup>3</sup>) or cubic inches (in<sup>3</sup>). The volume of the figure at the right can be shown using cubes.

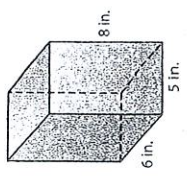
The bottom layer, or base, has 4 · 3 or 12 cubes.



It takes 12 · 2 or 24 cubes to fill the box. So, the volume of the box is 24 cubic meters.  
 A **rectangular prism** is a solid figure that has two parallel and congruent sides, or bases, that are rectangles. To find the volume of a rectangular prism, multiply the area of the base and the height, or find the product of the length  $l$ , the width  $w$ , and the height  $h$ .  
 $V = Bh$  or  $V = \ell w h$

### EXAMPLE 1 Find the volume of the rectangular prism.

$V = \ell w h$  Volume of a rectangular prism  
 $V = 5 \cdot 6 \cdot 8$  Replace  $\ell$  with 5,  $w$  with 6, and  $h$  with 8.  
 $V = 240$  Multiply.  
 The volume is 240 cubic inches.



### EXERCISES

Find the volume of each rectangular prism. Round decimals to the nearest tenth.

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# Math Skills Study Guide

## Ratios

Write each ratio as a fraction in simplest form.

1. 14 to 6
2. 18:3
3. 4:22
4. 7:21
5. 18:12
6. 20 to 9
7. 25 to 20
8. 4:10
9. 18:21
10. 84 to 16
11. 33 ounces to 11 ounces
12. 45 minutes:25 minutes
13. 77 cups:49 cups
14. 15 pounds to 39 pounds
15. 40 seconds to 6 minutes
16. 140 centimeters to 3 meters
17. 9 weeks:9 days
18. 1 yard to 11 feet

Determine whether the ratios are equivalent. Explain.

19.  $\frac{3}{16}$  and  $\frac{9}{48}$
20.  $\frac{7}{10}$  and  $\frac{8}{11}$
21. 18 in.:3 ft and 12 in.:2 ft
22. 6 mos.:2 yr and 8 mos.:3 yr

# Math Skills Study Guide

## Solving Proportions

Solve each proportion.

1.  $\frac{2}{5} = \frac{x}{8}$
2.  $\frac{2}{7} = \frac{4}{y}$
3.  $\frac{3}{5} = \frac{b}{30}$
4.  $\frac{2}{9} = \frac{c}{36}$
5.  $\frac{4}{5} = \frac{d}{25}$
6.  $\frac{20}{4} = \frac{10}{7}$
7.  $\frac{6}{2} = \frac{28}{14}$
8.  $\frac{2}{x} = \frac{10}{25}$
9.  $\frac{4}{3} = \frac{h}{18}$
10.  $\frac{10}{30} = \frac{2}{7}$
11.  $\frac{1}{18} = \frac{3}{6}$
12.  $\frac{2}{5} = \frac{6}{m}$
13.  $\frac{9}{2} = \frac{6}{6}$
14.  $\frac{n}{36} = \frac{2}{6}$
15.  $\frac{4}{z} = \frac{12}{21}$
16.  $\frac{5}{6} = \frac{m}{12}$
17.  $\frac{d}{27} = \frac{4}{9}$
18.  $\frac{5}{8} = \frac{15}{q}$
19.  $\frac{15}{27} = \frac{5}{k}$
20.  $\frac{4}{x} = \frac{20}{30}$
21.  $\frac{b}{5} = \frac{24}{9}$
22.  $\frac{z}{35} = \frac{4}{7}$
23.  $\frac{6}{c} = \frac{24}{28}$
24.  $\frac{6}{8} = \frac{x}{24}$
25.  $\frac{14}{16} = \frac{b}{8}$
26.  $\frac{8}{7} = \frac{24}{27}$
27.  $\frac{16}{36} = \frac{t}{9}$
28.  $\frac{1.2}{2.4} = \frac{2.4}{n}$
29.  $\frac{0.5}{1.8} = \frac{5}{9}$
30.  $\frac{1.6}{w} = \frac{8}{16}$

31. What is the solution of  $\frac{2}{5} = \frac{2}{k}$ ? Round to the nearest tenth.

32. Find the solution of  $\frac{4.3}{3} = \frac{n}{2.2}$  to the nearest tenth.