

RIVERDALE PUBLIC SCHOOL DISTRICT

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June 2011

Dear Parents/Guardians.

In order for students to be ready for their mathematics program this fall, Riverdale School requires that incoming Seventh grade students complete the attached Mathematics Review Activities Packet. These review activities were previously taught. Therefore students are not expected to learn new material on their own.

We need your help to oversee the completion of the summer mathematics review questions. At the bottom of this page is a tear-off which should be returned no later than June 17th to your child mathematics teacher. Attached is a copy of the Summer Mathematics Review Activities Packet. The completed activities packet needs to be signed by the parents/ guardians and returned on September 9, 2011.

With your help, this summer mathematics review program will be successful in helping your child be ready for the new school year.

Summer Mathematics 2011

I have received the notification about requirement about the Summer Mathematics Review Activities Packet for all students.

Student's Name

Parent's Name

Student's Signature

Parents Signature

Please return form by June 17th

Name _____ Parent Signature _____

SUMMER MATH REVIEW ACTIVITIES
INCOMING 7TH GRADE MATH

Adding and Subtracting Mixed Numbers

To add or subtract mixed numbers:

1. Add or subtract the fractions. Rename using the LCD if necessary.
2. Add or subtract the whole numbers.
3. Simplify if necessary.

EXAMPLE 1 Find $14\frac{1}{2} + 18\frac{2}{3}$.

$$14\frac{1}{2} \rightarrow 14\frac{3}{6}$$

Rename the fractions.

$$\begin{array}{r} 14\frac{1}{2} \\ + 18\frac{2}{3} \\ \hline \end{array} \rightarrow \begin{array}{r} 14\frac{3}{6} \\ + 18\frac{4}{6} \\ \hline \end{array}$$

Add the whole numbers and add the fractions.

$$32\frac{7}{6} \text{ or } 33\frac{1}{6}$$

Simplify.

EXAMPLE 2 Find $21 - 12\frac{5}{8}$.

$$21 \rightarrow 20\frac{8}{8}$$

Rename 21 as $20\frac{8}{8}$.

$$\begin{array}{r} 21 \\ - 12\frac{5}{8} \\ \hline \end{array} \rightarrow \begin{array}{r} 20\frac{8}{8} \\ - 12\frac{5}{8} \\ \hline \end{array}$$

First subtract the whole numbers and then the fractions.

$$8\frac{3}{8}$$

$$7\frac{3}{4} + 2\frac{3}{4}$$

$$14\frac{2}{9} - 6\frac{1}{9}$$

$$9\frac{1}{5} - 4\frac{3}{4}$$

$$7\frac{1}{8} + 5\frac{3}{8}$$

$$7\frac{3}{4} + 2\frac{2}{3}$$

$$5\frac{1}{2} - 5\frac{1}{3}$$

$$5\frac{1}{2} - 3\frac{1}{4}$$

$$6\frac{1}{3} + 2\frac{1}{6}$$

$$9 - 3\frac{2}{5}$$

Multiplying Fractions and Mixed Numbers

To multiply fractions, multiply the numerators and multiply the denominators.

$$\frac{5}{6} \times \frac{3}{5} = \frac{5 \times 3}{6 \times 5} = \frac{15}{30} = \frac{1}{2}$$

To multiply mixed numbers, rename each mixed number as a fraction. Then multiply the fractions.

$$2\frac{2}{3} \times 1\frac{1}{4} = \frac{8}{3} \times \frac{5}{4} = \frac{40}{12} = 3\frac{1}{3}$$

$$\frac{5}{9} \times 4$$

$$1\frac{2}{3} \times \frac{3}{5}$$

$$3\frac{3}{4} \times 1\frac{1}{6}$$

$$\frac{3}{4} \times 1\frac{2}{3}$$

$$3\frac{1}{3} \times 2\frac{1}{2}$$

$$4\frac{1}{5} \times \frac{1}{7}$$

Dividing Fractions and Mixed Numbers

To divide by a fraction, multiply by its multiplicative inverse or reciprocal.

To divide by a mixed number, rename the mixed number as an improper fraction.

$$5\frac{2}{5} \div 1\frac{4}{5}$$

$$6\frac{2}{3} \div 3\frac{1}{9}$$

$$4\frac{1}{4} \div \frac{3}{8}$$

$$4\frac{6}{7} \div 2\frac{3}{7}$$

$$12 \div 2\frac{1}{2}$$

$$4\frac{1}{6} \div 3\frac{1}{6}$$

Mean, Median, and Mode

The **mean** is the sum of the data divided by the number of data items. The **median** is the middle number of the ordered data, or the mean of the middle two numbers. The **mode** is the number (or numbers) that occur most often. The mean, median, and mode are each **measures of central tendency**.

Find the mean, median, and mode for each set of data. Round to the nearest tenth if necessary.

Number of Hours Spent Practicing				
3	12	10	8	7
18	11	12	10	3
8	6	0	1	5
8	2	15	9	12

Size	Tally	Frequency
6		13
7		7
8		7
9		3

Fractions, Decimals, and Percents

A percent is a ratio that compares a number to 100.

Example 1

Express the percent as a fraction.

65%

$$65\% = \frac{65}{100}$$

Write as a fraction with denominator of 100.

$$= \frac{13}{20}$$

Simplify.

Example 2

Express the percent as a decimal.

150%

$$150\% = \frac{150}{100} \\ = 1.5$$

Divide by 100 and remove the %.

Example 3

Express the fraction as a percent.

$$\frac{3}{20}$$

$$\frac{3}{20} = \frac{15}{100} \text{ or } 15\%$$

Write equivalent fraction with denominator of 100.

Example 4

Express the decimal as a percent.

3.17

$$3.17 = 3.17 \\ = 317\%$$

Multiply by 100 and add the %.

Exercises

Express each percent as a fraction or mixed number in simplest form and as a decimal.

12%

5%

17%

72%

150%

2%

98%

825%

0.6%

Express each decimal or fraction as a percent. Round to the nearest tenth percent, if necessary.

0.3

0.21

0.09

3.255

$\frac{3}{5}$

$\frac{3}{8}$

$\frac{7}{9}$

$\frac{5}{7}$

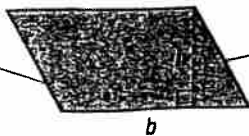
$4\frac{3}{4}$

Area of Parallelograms

The area A of a parallelogram equals the product of its base b and its height h .

$$A = bh$$

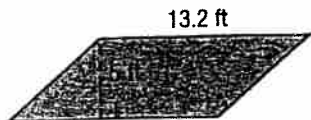
The **base** is any side of a parallelogram.



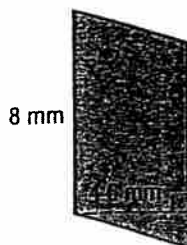
The **height** is the length of the segment perpendicular to the base with endpoints on opposite sides.

Find the area of each parallelogram. Round to the nearest tenth if necessary.

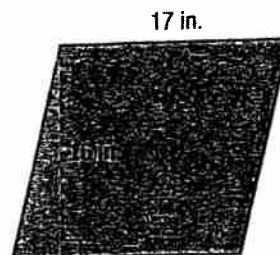
1.



2.



3.

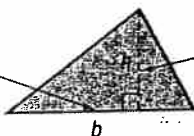


Area of Triangles and Trapezoids

The area A of a triangle equals half the product of its base b and its height h .

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

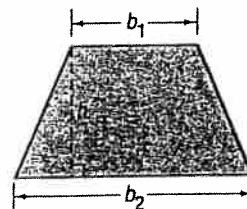
The **base** of a triangle can be any of its sides.



The **height** is the distance from a base to the opposite vertex.

A trapezoid has two bases, b_1 and b_2 . The height of a trapezoid is the distance between the two bases. The area A of a trapezoid equals half the product of the height h and the sum of the bases b_1 and b_2 .

$$A = \frac{1}{2}h(b_1 + b_2)$$

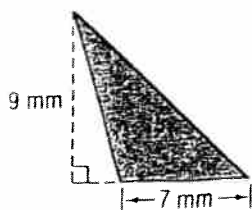


Find the area of each figure. Round to the nearest tenth if necessary.

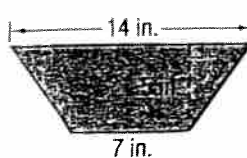
1.



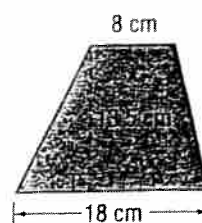
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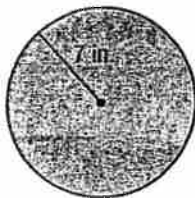
Area of Circles

The area A of a circle equals the product of pi (π) and the square of its radius r .

$$A = \pi r^2$$

Find the area of each circle. Round to the nearest tenth.

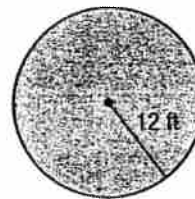
1.



2.



3.



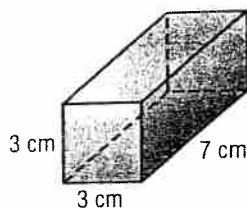
Surface Area of Rectangular Prisms

The sum of the areas of all the surfaces, or faces, of a three-dimensional figure is the **surface area**. The surface area S of a rectangular prism with length ℓ , width w , and height h is found using the following formula.

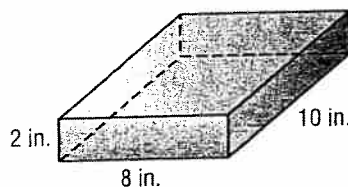
$$S = 2\ell w + 2\ell h + 2wh$$

Find the surface area of each rectangular prism.

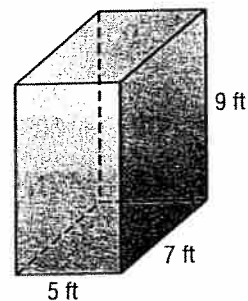
1.



2.



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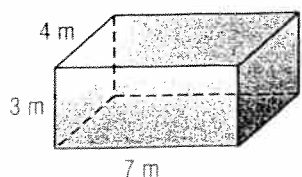
Volume of Rectangular Prisms

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 .

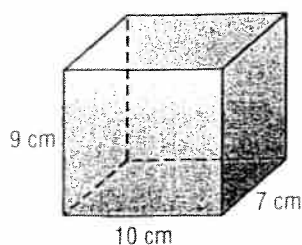
$$V = Bh \text{ or } V = \ell wh$$

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

1.



2.



3.

