

Name _____

Presbyterian Christian School



6th Grade Math Mr. Johnson · Mrs. Walters

Over the summer, we hope each student will retain the skills, knowledge, and content mastered during 5th Grade Math. This math packet is not mandatory but is meant to review, reinforce, and enrich the topics introduced this year. Our desire is for every student to be prepared and ready to succeed in 6th Grade Math!

*Students who complete this packet and turn it in by
Friday, August 11th,
will receive 10 bonus points on their first test.*

Name _____



Adding and Subtracting Decimals

Find $1.7 + 2.45$.

Find $36.57 - 4.6$.

<p><i>Line up the decimal points.</i></p> $\begin{array}{r} \downarrow \\ 1.7 \\ + 2.45 \\ \hline \end{array}$ $\begin{array}{r} 1 \\ 1.70 \leftarrow \text{Write zeros to} \\ + 2.45 \quad \text{show place value.} \\ \hline 4.15 \end{array}$ <p style="text-align: center;">\downarrow Place decimal point in answer.</p>	<p><i>Line up the decimal points.</i></p> $\begin{array}{r} \downarrow \quad \quad 5 \ 15 \\ 36.57 \quad 36.57 \\ - 4.6 \quad - 4.60 \leftarrow \text{Write zeros to} \\ \hline \quad \quad \quad \quad \text{show place value.} \\ 31.97 \end{array}$ <p style="text-align: center;">\downarrow Place decimal point in answer.</p>
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Find each sum or difference.

1.
$$\begin{array}{r} \downarrow \\ 2.65 \\ + 13.30 \\ \hline \end{array}$$

2.
$$\begin{array}{r} \downarrow \\ 14.10 \\ - 3.05 \\ \hline \end{array}$$

3.
$$\begin{array}{r} 744 \\ + 36.2 \\ \hline \end{array}$$

4.
$$\begin{array}{r} 9 \\ - 0.6 \\ \hline \end{array}$$

5.
$$\begin{array}{r} 8.97 \\ + 66 \\ \hline \end{array}$$

6.
$$\begin{array}{r} 100 \\ - 0.22 \\ \hline \end{array}$$

7.
$$\begin{array}{r} 6.8 \\ + 237.29 \\ \hline \end{array}$$

8.
$$\begin{array}{r} 0.5 \\ - 0.23 \\ \hline \end{array}$$

9. $15.4 - 8 = \underline{\hspace{2cm}}$

10. $3 - 2.54 = \underline{\hspace{2cm}}$

11. $1.34 + 4.1 = \underline{\hspace{2cm}}$

12. $133.01 - 5.6 = \underline{\hspace{2cm}}$

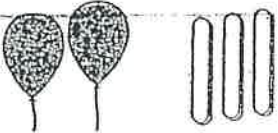
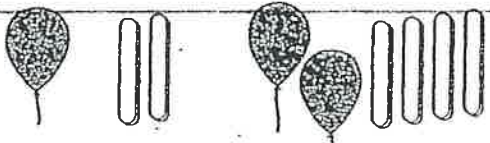
13. $448 + 1.75 + 80.3 = \underline{\hspace{2cm}}$

14. $12.3 + 0.61 + 100 = \underline{\hspace{2cm}}$

15. On the 3-days of their vacation, the Davis family traveled 417 mi, 45.3 mi, and 366.9 mi. How far did they travel all together?
 $\underline{\hspace{2cm}}$

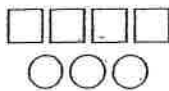
16. Etta bought a calculator for \$15. Glenn found the same model for \$9.79. How much more did Etta pay than Glenn did?
 $\underline{\hspace{2cm}}$

Ratio and Proportion

<p>You can use ratios to compare two quantities.</p> <div style="text-align: center;">  <p>2 balloons to 3 sticks</p> </div> <p>You can write ratios as:</p> <p>words 2 to 3</p> <p>with a colon 2:3</p> <p>as a fraction $\frac{2}{3}$</p>	<p>A statement that two ratios are equal is called a proportion.</p> <div style="text-align: center;">  </div> $\frac{1 \text{ balloon}}{2 \text{ sticks}} = \frac{2 \text{ balloons}}{4 \text{ sticks}}$ $\frac{1}{2} = \frac{1 \times 2}{2 \times 2} = \frac{2}{4}$ $\frac{1}{2} = \frac{2}{4} \text{ is a proportion.}$
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Write each ratio. Use words, a colon, or a fraction.

1. Write the ratio of squares to circles.



2. The Computer Club has 20 girls and 15 boys. Write the ratio of girls to boys in the club.

Tell if the ratios form a proportion. Write yes or no.

3. $\frac{3}{4}$ $\frac{9}{12}$ _____ 4. $\frac{1}{3}$ $\frac{2}{9}$ _____ 5. $\frac{3}{5}$ $\frac{6}{10}$ _____ 6. $\frac{4}{6}$ $\frac{8}{18}$ _____

Complete each table so that all ratios are equal.

7.

3	6	9	12
5			

8.

2			
7	21	42	63

9.

4		20	
5	10		50

10. The ratio of the width to the length of a painting is 3 to 7. If the painting is 42 in. long, how wide is it?

11. The ratio of the number of moons the planet Neptune has to the number that Saturn has is 4 to 9. Saturn has 18 moons. How many moons does Neptune have?

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Area of Squares and Rectangles

R 10-8

You can use formulas to find the area of a square or rectangle.

Find the area of a square that is 7.2 m on each side.

Find the area of a rectangle with a length (l) of 4 cm and a width (w) of 12 cm.

Use the formula $A = s^2$.

Use the formula $A = l \times w$.

$$A = (7.2)^2$$

$$A = 4 \times 12$$

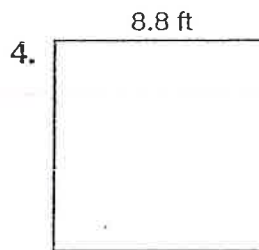
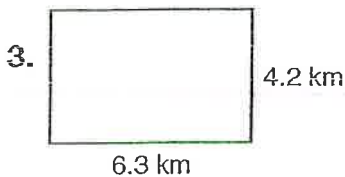
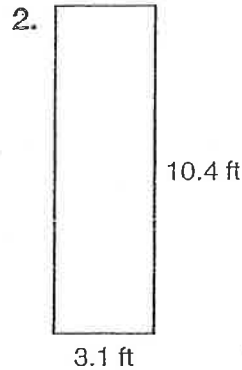
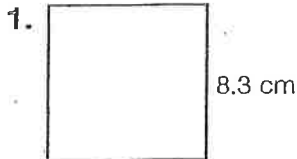
$$A = 51.84$$

$$A = 48$$

The area is 51.84 m².

The area is 48 cm².

Find the area of each figure.



5. **Reasoning** What is the length of a rectangle that has an area of 120 ft² and a width of 8 ft? _____

6. **Number Sense** What is the area of a square that is 12.4 cm on each side? _____

Name _____

Review
6

Dividing with Decimals

Find $36.8 \div 16$.

$\begin{array}{r} \downarrow \\ 2. \\ 16 \overline{)36.8} \end{array}$ <p style="text-align: center;">Place the decimal point.</p> <p style="text-align: center;">← Think: $20 \overline{)40}$</p> <p style="text-align: center;">Try 2 in the quotient.</p>	$\begin{array}{r} 2.3 \\ 16 \overline{)36.8} \\ \underline{-32} \\ 48 \\ \underline{-48} \\ 0 \end{array}$ <p>Multiply 2×16. Subtract. Bring down 8. Multiply 3×16. Subtract.</p>
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Find each quotient.

$$1. \begin{array}{r} 2. \\ 16 \overline{)13.8} \\ \underline{-12} \\ 18 \\ \underline{-16} \\ 20 \\ \underline{-20} \\ 0 \end{array}$$

2. $6 \overline{)131.4}$

3. $9 \overline{)141.3}$

4. $5 \overline{)388.5}$

5. $7 \overline{)669.2}$

6. $28 \overline{)263.2}$

7. $41 \overline{)274.7}$

8. $7 \overline{)34.23}$

9. $269.12 \div 8 =$ _____

10. $311.56 \div 4 =$ _____

11. $2,229.62 \div 46 =$ _____

12. $1,449.09 \div 81 =$ _____

13. A photographer bought 36 rolls of film for \$136.44.
What was the price of one roll?

14. Four students each ran 100 m in a 400-m relay race.
The team's total time was 49.44 sec. Find the average
time of each runner.

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Review
4

Multiplying with Decimals

Find 4.3×2.7 .

<p><i>Multiply as you would with whole numbers.</i></p> $\begin{array}{r} 2 \\ 4.3 \\ \times 2.7 \\ \hline 301 \\ 860 \\ \hline 1161 \end{array}$	<p><i>Count the number of decimal places in both factors. The total is the number of decimal places in the product.</i></p> $\begin{array}{r} 4.3 \leftarrow 1 \text{ decimal place} \\ \times 2.7 \leftarrow + 1 \text{ decimal place} \\ \hline 11.61 \leftarrow 2 \text{ decimal places} \end{array}$
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Find each product.

1.
$$\begin{array}{r} 14 \\ \times 8.8 \\ \hline 112 \\ 1120 \\ \hline \end{array}$$

2.
$$\begin{array}{r} 1.6 \\ \times .9 \\ \hline \end{array}$$

3.
$$\begin{array}{r} 0.4 \\ \times 3.2 \\ \hline \end{array}$$

4.
$$\begin{array}{r} 0.05 \\ \times 0.3 \\ \hline \end{array}$$

5.
$$\begin{array}{r} 2.15 \\ \times 8.3 \\ \hline \end{array}$$

6.
$$\begin{array}{r} 3.3 \\ \times 0.12 \\ \hline \end{array}$$

7.
$$\begin{array}{r} 0.51 \\ \times 4.2 \\ \hline \end{array}$$

8.
$$\begin{array}{r} 1.35 \\ \times 13 \\ \hline \end{array}$$

9. $23 \times 0.47 =$ _____

10. $0.9 \times 5 =$ _____

11. $168 \times 2.25 =$ _____

12. $0.8 \times 0.11 =$ _____

13. $20 \times 20.2 =$ _____

14. $4.9 \times 0.3 =$ _____

15. A roll of paper towels contained 250 sheets. Each sheet was 8.75 inches long. How long was the roll? _____

16. Tania bought 3 new sweaters. Each sold for \$19.99. How much did she spend? _____

Name _____

Adding and Subtracting Fractions

Add or subtracting the fractions and mixed numbers. Reduce your answer when possible.

1.) $2\frac{2}{3} + \frac{1}{3}$

2.) $3\frac{3}{4} - \frac{1}{4}$

3.) $\frac{7}{8} - \frac{5}{8}$

4.) $\frac{1}{6} + 2\frac{5}{6}$

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

6.) $3\frac{5}{7} + \frac{2}{7}$

7.) $1 - \frac{2}{5}$

8.) $\frac{1}{4} + \frac{1}{4}$

9). If Jonathan has 15 inches of yarn and used 10 inches of it on an art project; how what fraction of the yarn did he use?

10). For a recipe, Gabby needs 1 cup of flour. If she has one-third of a cup, how much more does she need?

Name _____

Multiplying Mixed Numbers

- Step 1: Make the mixed number an improper fraction
*Multiply the denominator by the whole number FIRST, then add that product to the numerator. Place it over the denominator. (Keep the denominator the same.)

$$\{\text{Example}\} \begin{array}{c} + \\ \overline{3\frac{2}{3}} \\ \times \\ \hline \end{array} \times \begin{array}{c} + \\ \overline{4\frac{1}{2}} \\ \times \\ \hline \end{array} = \frac{11}{3} \times \frac{9}{2}$$

- Step 2: Look for common factors and simplify: $\frac{11}{\cancel{3}} \times \frac{\cancel{9}^3}{2}$
1
- Step 3: Multiply across. Write product as a mixed number: $\frac{33}{2} = 16\frac{1}{2}$

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

2.) $1\frac{3}{7} \times 4\frac{2}{5}$

3.) $2\frac{2}{9} \times 2\frac{1}{2}$

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

5.) $10\frac{2}{5} \times 1\frac{1}{5}$

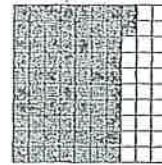
6.) $2\frac{1}{4} \times 1\frac{1}{3}$

Name _____

Fractions, Decimals, and Percents

R 7-2

Fractions, decimals, and percents all name parts of a whole. The grid to the right has 72 out of 100 squares shaded.



72 out of 100 are shaded. As a fraction, that is $\frac{72}{100}$.
As a decimal, that is 0.72. As a percent, that is 72%.

Write 40% as a fraction and decimal.

$$40\% = \frac{40}{100} = 0.40$$

The decimal point moves two places to the left.

Write 0.47 as a fraction and percent.

$$0.47 = \frac{47}{100} = 47\%$$

Write 0.3% as a fraction and decimal.

$$0.3\% = \frac{0.3}{100} = 0.003$$

The decimal point moves two places to the left. Fill in any spaces with zeros.

Write $\frac{3}{4}$ as a decimal and percent.

You can use a proportion:

$$\frac{3}{4} = \frac{n}{100}$$

$$\frac{4n}{4} = \frac{300}{4}$$

$$n = 75$$

$$\text{So, } \frac{3}{4} = 0.75 = 75\%.$$

Write each in two other ways.

1. $\frac{2}{10}$ _____ ; _____

2. $\frac{23}{100}$ _____ ; _____

3. $\frac{7}{10}$ _____ ; _____

4. 97% _____ ; _____

5. 16% _____ ; _____

6. 52% _____ ; _____

7. 0.04 _____ ; _____

8. 0.35 _____ ; _____

9. **Number Sense** Sheila got 87% of the problem correct.
Patrick got $\frac{91}{100}$ correct. Who scored higher? _____

Name _____

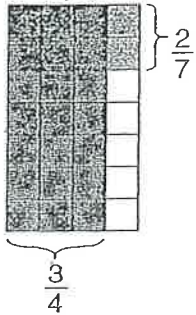
Multiplying Fractions

R 5-2

Find $\frac{3}{4} \times \frac{2}{7}$.

One Way

Draw a picture. Simplify if possible.



6 of the 28 squares have overlapping shading.

So, $\frac{3}{4} \times \frac{2}{7} = \frac{6}{28}$.

Simplify $\frac{6}{28}$ to $\frac{3}{14}$.

Another Way

Multiply the numerators and denominators. Simplify if possible.

$$\begin{aligned} & \frac{3}{4} \times \frac{2}{7} \\ &= \frac{3 \times 2}{4 \times 7} = \frac{6}{28} \\ &= \frac{3}{14} \end{aligned}$$

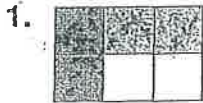
Simplify First

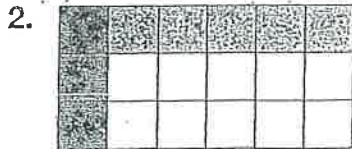
Find the GCF of any numerator and any denominator.

The GCF of 2 and 4 is 2. Divide 2 and 4 by the GCF.

$$\frac{\cancel{3}}{\cancel{4}^2} \times \frac{\cancel{2}^1}{7} = \frac{3}{14}$$

Write an equation for each picture.





Find each product. Simplify if possible.

3. $\frac{6}{8} \times \frac{1}{3} =$ _____

4. $\frac{5}{6} \times \frac{7}{10} =$ _____

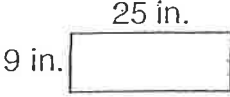

5. $\frac{4}{5} \times \frac{3}{8} =$ _____

6. $\frac{1}{2} \times \frac{4}{9} =$ _____

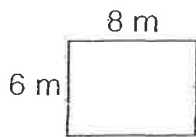
7. **Number Sense** Can you simplify before multiplying $14 \times \frac{25}{27}$? Explain.

Perimeter

Perimeter is the distance around a shape.

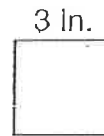
<p>You can add the lengths of all the sides or you can multiply the sum of the length and the width by 2 to find the perimeter of a rectangle.</p> <div style="text-align: center;">  </div> <p>$p = 25 \text{ in.} + 9 \text{ in.} + 25 \text{ in.} + 9 \text{ in.} = 68 \text{ in.}$ or $p = 2 \times (25 \text{ in.} + 9 \text{ in.}) = 68 \text{ in.}$</p>	<p>If only one side of a figure is given, then all sides have the same length.</p> <div style="text-align: center;">  </div> <p>$p = 5 \text{ cm} + 5 \text{ cm} + 5 \text{ cm} + 5 \text{ cm} = 20 \text{ cm}$ or $p = 4 \times 5 \text{ cm} = 20 \text{ cm}$</p>
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1. Find the perimeter of the rectangle.



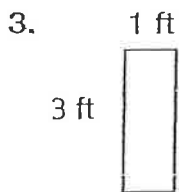
$p = \underline{\quad} + \underline{\quad} + \underline{\quad} + \underline{\quad} = \underline{\quad} \text{ m}$

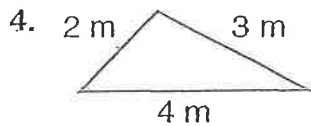
2. Find the perimeter of the square.

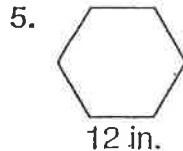


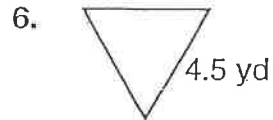
$p = \underline{\quad} \times \underline{\quad} = \underline{\quad} \text{ in.}$

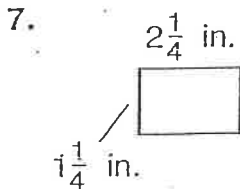
Find the perimeter of each figure.

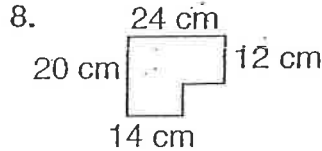


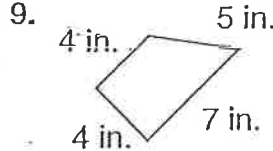


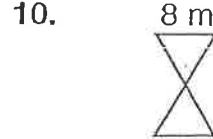












11. A flower garden is in the shape of an equilateral triangle.

Each side measures $15\frac{3}{8}$ ft. What is the garden's perimeter? _____

