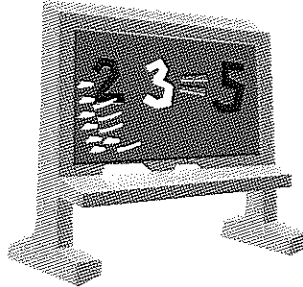


# Saint Paul School

Summer 2017

Math Packet



## Students Entering GRADE 8

Dear Parents,

We have covered a great deal of Math this year and do need to keep it fresh in the minds of your child as September approaches.

Attached is a review packet of what we have covered this year. Your child should complete this packet over the summer and bring it back to school in September to go over it.

Have a wonderful summer!

Sincerely,

Mrs. Helen McCarthy

P.S. Math supplies: mechanical pencils, white board markers, a one-subject notebook, and a calculator.

### DIRECTIONS:

- Work on packet three times a week for eight weeks
- Complete ALL problems
- Pencil ONLY
- Show ALL work. NO work = NO Grade
- Calculators are not needed
- Summer Math Packet will be test grade
- Due first day of school, September 5, 2017

Student Name \_\_\_\_\_

Parent Signature \_\_\_\_\_

In Exercises 1–8, rewrite the improper fraction as a mixed number.

1.  $\frac{23}{6}$

2.  $\frac{17}{3}$

3.  $\frac{29}{7}$

4.  $\frac{39}{4}$

5.  $\frac{27}{5}$

6.  $\frac{20}{9}$

7.  $\frac{37}{10}$

8.  $\frac{51}{8}$

In Exercises 9–16, rewrite the mixed number as an improper fraction.

9.  $2\frac{7}{8}$

10.  $3\frac{1}{4}$

11.  $6\frac{1}{9}$

12.  $4\frac{3}{10}$

13.  $7\frac{1}{2}$

14.  $2\frac{5}{6}$

15.  $1\frac{14}{15}$

16.  $3\frac{2}{11}$

In Exercises 17–20, rewrite the number as a decimal.

17.  $\frac{21}{4}$

18.  $\frac{10}{3}$

19.  $5\frac{3}{4}$

20.  $2\frac{7}{8}$

Use after Lesson 3.3, page 126

In Exercises 1–8, add or subtract. Simplify if possible.

1.  $\frac{2}{9} + \frac{5}{9}$

2.  $\frac{3}{4} + \frac{5}{12}$

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

4.  $\frac{13}{15} - \frac{2}{3}$

5.  $\frac{1}{2} + \frac{3}{7}$

6.  $\frac{5}{6} + \frac{5}{8}$

7.  $\frac{7}{9} - \frac{1}{3}$

8.  $\frac{7}{12} - \frac{2}{15}$

Use after Lesson 3.4, page 130

In Exercises 1–8, simplify the mixed number.

1.  $3\frac{11}{7}$

2.  $8\frac{13}{12}$

3.  $5\frac{17}{10}$

4.  $7\frac{14}{9}$

5.  $9\frac{10}{5}$

6.  $12\frac{7}{3}$

7.  $1\frac{6}{4}$

8.  $4\frac{14}{8}$

In Exercises 9–16, add or subtract. Simplify if possible.

9.  $2\frac{2}{5} + 3\frac{1}{5}$

10.  $4\frac{1}{4} + 2\frac{3}{8}$

11.  $3\frac{2}{3} - 1\frac{1}{3}$

12.  $1\frac{1}{7} + 5\frac{6}{7}$

13.  $7\frac{3}{4} + 2\frac{1}{3}$

14.  $8\frac{7}{9} + 4\frac{5}{6}$

15.  $7\frac{1}{2} - 3\frac{1}{3}$

16.  $3\frac{5}{12} + 3\frac{8}{9}$

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

2.  $4 \cdot \frac{3}{8}$

3.  $\frac{7}{10} \cdot 12$

4.  $11 \times 2\frac{1}{2}$

5.  $2\frac{3}{4} \cdot 3\frac{1}{6}$

6.  $\frac{2}{7} \cdot 8\frac{7}{8}$

7.  $2\frac{1}{8} \cdot 5\frac{1}{4}$

8.  $5\frac{1}{7} \times \frac{7}{9}$

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

10.  $4 \div \frac{1}{6}$

11.  $\frac{5}{9} \div 3$

12.  $5\frac{1}{3} \div \frac{1}{3}$

13.  $2\frac{2}{5} \div 1\frac{1}{6}$

14.  $10 \div 2\frac{1}{2}$

15.  $\frac{5}{8} \div \frac{5}{6}$

16.  $\frac{22}{25} \div 10\frac{1}{2}$

17.  $4\frac{1}{6} \div 2\frac{2}{9}$

In Exercises 1–8, find the absolute value.

1.  $|-6|$       2.  $|5|$       3.  $|7|$       4.  $|-4|$   
 5.  $|10|$       6.  $|-17|$       7.  $|-4.7|$       8.  $|12\frac{1}{3}|$

In Exercises 9–12, complete the statement using  $<$ ,  $>$ , or  $=$ .

9.  $-3$  ?  $|3|$       10.  $0$  ?  $|-2|$       11.  $|-6|$  ?  $|6|$       12.  $8$  ?  $|-8|$

Use after Lesson 10.2, page 484

In Exercises 1–8, find the sum.

1.  $17 + (-6)$       2.  $4 + (-12)$       3.  $-15 + 20$       4.  $-11 + (-4)$   
 5.  $9 + (-9)$       6.  $-12 + 14$       7.  $-13 + (-8)$       8.  $7 + (-18)$

In Exercises 9–14, find the average of the numbers.

9. 12, -4, 13, -9      10. -5, -1, -3, 11      11. 45, -23, 15, -37  
 12. 98, -30, -3, -11, -4      13. 21, -9, 27, -17, -12      14. 7, 9, 9, 6, -30

Use after Lesson 10.3, page 488

In Exercises 1–8, write each subtraction expression as an equivalent addition expression. Then find the sum.

1.  $8 - 15$       2.  $-9 - 12$       3.  $3 - (-6)$       4.  $-6 - (-8)$   
 5.  $-20 - 3$       6.  $30 - 42$       7.  $21 - (-17)$       8.  $-30 - (-47)$

In Exercises 9–16, add or subtract.

9.  $12 + (-4)$       10.  $-3 - (-17)$       11.  $-11 + 19$       12.  $7 - (-9)$   
 13.  $25 - 38$       14.  $19 + (-29)$       15.  $-18 - (-16)$       16.  $-11 + (-21)$

In Exercises 17–20, evaluate the expression when  $x = 2$  and when  $x = -8$ .

17.  $17 - x$       18.  $8 - x$       19.  $x - (-20)$       20.  $0 - x$

Use after Lesson 10.4, page 492

In Exercises 1–3, copy and complete the table of values.

1.  $y = -12 + x$

2.  $y = x - 4$

3.  $y = -x + 6$

	-10	-5	0	5	10
$y$	?	?	?	?	?

	-4	-2	0	2	4
$y$	?	?	?	?	?

	-3	-1	0	1	3
$y$	?	?	?	?	?

In Exercises 4–7, use integer values from -3 to 3 to draw a scatter plot for the equation.

4.  $y = x - 5$

5.  $y = x + 8$

6.  $y = |x| + 2$

7.  $y = -1 - x$

In Exercises 3–6, use a number line to find the difference.

3.  $5 - 8$

4.  $3 - (-2)$

5.  $-7 - 6$

6.  $-4 - 8$

7. At noon the temperature was  $-3^{\circ}\text{F}$ . By midnight the temperature had dropped to  $-16^{\circ}\text{F}$ . How much did the temperature drop?

Use after Lesson 4.6, page 198

In Exercises 1–8, solve the equation. Then check your solution.

1.  $d + 11 = 20$

2.  $m + 15 = 0$

3.  $7 + r = -10$

4.  $9 + p = 7$

5.  $-20 = v + 31$

6.  $a + \frac{1}{8} = \frac{1}{2}$

7.  $-1 = \frac{3}{4} + m$

8.  $-3.5 = k + 0.2$

In Exercises 9–11, write the equation that represents the statement. Then solve the equation.

9. The sum of eighteen and a number is thirty-two.
10. A number added to twelve is zero.
11. Negative four is the sum of nine and a number.
12. Suzanna collects baseball cards. After buying 5 cards, she counted a total of 87 cards in her collection. Write and solve an addition equation to find the number she had before buying the 5 cards.

Use after Lesson 4.7, page 204

In Exercises 1–8, solve the equation. Then check your solution.

1.  $t - 7 = 3$

2.  $g - 4 = 12$

3.  $b - 9 = -5$

4.  $q - (-2) = -5$

5.  $x - 4 = -11$

6.  $k - \frac{1}{2} = \frac{3}{4}$

7.  $9.3 = z + 4.1$

8.  $a - 1.7 = 0$

In Exercises 9–11, write the equation that represents the statement. Then solve it the equation.

9. Eight is the difference between a number and fourteen.
10. The difference between a number and negative three is seventeen.
11. The difference between a number and 15 is negative three.
12. Paul opened a package of cookies and ate  $\frac{1}{4}$  of them. He counted the cookies he had left, and there were 29. Write and solve a subtraction equation to find the number of cookies in the unopened package.

In Exercises 1–3, decide whether  $x = 5$  is a solution.

1.  $-7 + x = -12$

2.  $-x + 4 = -1$

3.  $-3 - x = 2$

In Exercises 4–6, rewrite the equation in a simpler form. Then solve.

4.  $f - (-8) = 8$

5.  $m + (-2) = 9$

6.  $h - (-5) = 13$

In Exercises 7–14, solve the equation. Then check your solution.

7.  $14 + g = 5$

8.  $\frac{1}{3} + n = 2\frac{2}{3}$

9.  $s - 8 = -6$

10.  $z - \frac{7}{8} = \frac{3}{8}$

11.  $k + 9.6 = 1.2$

12.  $0.5 + y = 0.75$

13.  $a - (-6) = 8$

14.  $u + (-11) = 7$

Use after Lesson 12.3, page 592

In Exercises 1–3, without solving the equation, decide whether the solution is *positive* or *negative*. Then solve the equation.

1.  $3g = 27$

2.  $-40 = 8m$

3.  $-6x = -16$

In Exercises 4–11, solve the equation. Then check your solution.

4.  $24 = -4n$

5.  $-0.4h = -63$

6.  $7d = -77$

7.  $-\frac{1}{3}y = 28$

8.  $0 = 8a$

9.  $-14r = -42$

10.  $-1.5p = 7.5$

11.  $-k = 22$

In Exercises 1–9, solve the equation. Then check your solution.

1.  $12 + 5m = -43$

2.  $6w - 9 = 39$

3.  $3t - 11 = -23$

4.  $\frac{u}{-9} + 7 = 13$

5.  $\frac{d}{6} - 4 = -12$

6.  $\frac{k}{-5} + 11 = 6$

7.  $-3x + 5 = 11$

8.  $2.5z - 7 = 4.5$

9.  $14 - 2y = 0$

10. Your brother is setting up a lemonade stand. His goal is to make \$10. He spent \$4.99 on supplies and has enough lemonade for about 50 cups. Use the verbal model to figure what to charge per cup.

$$\begin{array}{r} \text{Number} \cdot \text{Charge} - \text{Start-up} \\ \text{of cups} \quad \text{per cup} \quad \text{costs} \end{array} = \text{Profit}$$

11. Admission to an amusement park is \$6.50. Each ride ticket costs \$1.25. You have \$20 to spend. How many ride tickets can you buy?

In Exercises 1–8, find the product.

1.  $3 \times (-5)$

2.  $(-7) \cdot (-9)$

3.  $(-4)(2)$

4.  $(3)(-2)(3)$

5.  $-6 \cdot 6$

6.  $15 \cdot (-3)$

7.  $(8)(-7)$

8.  $-6 \cdot 2 \cdot 3$

In Exercises 9–12, evaluate the expression when  $x = -4$  and when  $x = 5$ .

9.  $-8x$

10.  $|x| \cdot x$

11.  $3x + 9$

12.  $11 \cdot x$

Use after Lesson 10.6, page 504

In Exercises 1–8, find the quotient.

1.  $-49 \div (-7)$

2.  $52 \div (-4)$

3.  $-144 \div 12$

4.  $-99 \div (-11)$

5.  $-21 \div 3$

6.  $-48 \div 6$

7.  $-120 \div (-12)$

8.  $35 \div (-7)$

In Exercises 9 and 10, find the average of the numbers.

9.  $-15, 3, -22, 12, 10, -8, 2, 6$

10.  $-14, -16, -6, 18, -8, -10, -8, -9, 17$

In Exercises 11–14, evaluate the expression when  $x = 2$  and when  $x = -3$ .

11.  $-18 \div x$

12.  $x \div 6$

13.  $12 \div x$

14.  $x \div (-8)$

In Exercises 8–11, solve the proportion.

8.  $\frac{d}{12} = \frac{1}{3}$

9.  $\frac{20}{30} = \frac{4}{n}$

10.  $\frac{12}{x} = \frac{3}{16}$

11.  $\frac{4}{5} = \frac{m}{40}$

Use after Lesson 6.4, page 288

Use cross products to decide whether the proportion is true.

1.  $\frac{6}{16} \stackrel{?}{=} \frac{9}{24}$

2.  $\frac{21}{9} \stackrel{?}{=} \frac{7}{3}$

3.  $\frac{15}{10} \stackrel{?}{=} \frac{9}{8}$

4.  $\frac{20}{13} \stackrel{?}{=} \frac{6}{3.9}$

Use cross products to solve the proportion. Then check the solution.

5.  $\frac{12}{k} = \frac{8}{10}$

6.  $\frac{v}{14} = \frac{6}{21}$

7.  $\frac{9}{15} = \frac{3}{x}$

8.  $\frac{4}{3} = \frac{z}{7.8}$