

# 8<sup>th</sup> Grade Summer Math Packet

Hooray! You have completed the seventh grade and are about to enter your last year of Junior High!

In this summer math packet you will find various problems that you should already know how to solve as you get ready to enter into the eighth grade. If you get stuck on a particular concept, there are video links located at the bottom of almost every page. If you go to the provided link, you will find a short video explaining the particular concept and how to solve problems involving that concept.

**These problems should be completed without the use of a calculator and all work must be shown in order to receive full credit.** The summer math packet will be due when you return from summer break. Do your absolute best and good luck! See you next year!

Concepts	Completed ( X )
1. Multiplying and Dividing Whole Numbers	_____
2. Adding and Subtracting Fractions	_____
3. Multiplying and Dividing Fractions	_____
4. Adding and Subtracting Decimals	_____
5. Multiplying and Dividing Decimals	_____
6. Adding and Subtracting Integers	_____
7. Multiplying and Dividing Integers	_____
8. One-Step and Two-Step Equations	_____

## Multiplying and Dividing Whole Numbers

1. 
$$\begin{array}{r} 372 \\ \times 3 \\ \hline \end{array}$$

2. 
$$\begin{array}{r} 58 \\ \times 21 \\ \hline \end{array}$$

3.  $272 \times 13 = \underline{\hspace{2cm}}$

4.  $109 \times 387 = \underline{\hspace{2cm}}$

5.  $5868 \div 36 = \underline{\hspace{2cm}}$

6.  $4074 \div 42 = \underline{\hspace{2cm}}$

$$36 \overline{)5868}$$

$$42 \overline{)4074}$$

7.  $4929 \div 27 = \underline{\hspace{2cm}}$

8.  $6189 \div 36 = \underline{\hspace{2cm}}$

$$\overline{\hspace{2cm}}$$

$$\overline{\hspace{2cm}}$$

**Need help with the long division? Check out this video:**

[www.khanacademy.org/math/arithmetic/multiplication-division/long\\_division/v/dividing-by-a-two-digit-number](http://www.khanacademy.org/math/arithmetic/multiplication-division/long_division/v/dividing-by-a-two-digit-number)

## Adding and Subtracting Fractions

1.  $\frac{2}{3} + \frac{1}{6} =$  \_\_\_\_\_

2.  $\frac{3}{4} - \frac{9}{16} =$  \_\_\_\_\_

3.  $1\frac{9}{16} + \frac{3}{4} =$  \_\_\_\_\_

4.  $2 - 1\frac{5}{7} =$  \_\_\_\_\_

5.  $3\frac{5}{6} + 2\frac{3}{4} =$  \_\_\_\_\_

6.  $2\frac{4}{5} - 1\frac{1}{2} =$  \_\_\_\_\_

7. Ms. Vickroy assigned the problem:  $\frac{8}{9} - \frac{4}{6}$ . Three of her students' responses are below. Who completed the problem correctly? What common mistakes did the other two students make?

Sue

$$\begin{aligned} \frac{8}{9} - \frac{4}{6} &= \frac{4}{3} \\ &= 1\frac{1}{3} \end{aligned}$$

Jim

$$\begin{aligned} \frac{8}{9} - \frac{4}{6} &= \frac{48}{54} - \frac{36}{54} \\ &= \frac{12}{54} \\ &= \frac{2}{9} \end{aligned}$$

Bob

$$\begin{aligned} \frac{8}{9} - \frac{4}{6} &= \frac{8}{54} - \frac{4}{54} \\ &= \frac{4}{54} \\ &= \frac{2}{27} \end{aligned}$$

## Multiplying and Dividing Fractions

1.  $\frac{3}{4} \times \frac{3}{5} =$  \_\_\_\_\_

2.  $\frac{9}{10} \times \frac{1}{3} =$  \_\_\_\_\_

3.  $3\frac{4}{5} \times 2\frac{1}{3} =$  \_\_\_\_\_

4.  $7 \times 6\frac{1}{4} =$  \_\_\_\_\_

5.  $\frac{5}{8} \div \frac{5}{7} =$  \_\_\_\_\_

6.  $\frac{2}{3} \div \frac{1}{9} =$  \_\_\_\_\_

7.  $2\frac{1}{3} \div 5\frac{5}{6} =$  \_\_\_\_\_

8.  $10\frac{1}{3} \div 2 =$  \_\_\_\_\_

9. The area of a rectangular park is  $\frac{7}{8}$  square mile. The length of the park is  $\frac{3}{4}$  mile. What is the width of the park? (*Hint: Area=length x width*)

Width = \_\_\_\_\_

Fraction frustration? Try watching this video:

[www.khanacademy.org/math/arithmetic/fractions/mixed\\_number\\_mult\\_div/v/dividing-mixed-numbers](http://www.khanacademy.org/math/arithmetic/fractions/mixed_number_mult_div/v/dividing-mixed-numbers)

## Adding and Subtracting Decimals

\*Remember: The decimal points must be lined up!!\*

1. 
$$\begin{array}{r} 2.34 \\ + 4.60 \\ \hline \end{array}$$

2. 
$$\begin{array}{r} 5.5 \\ 11.902 \\ + 9.87 \\ \hline \end{array}$$

3.  $7.02 + 3.9$

4.  $0.0094 + 0.15 + 3.296$

5.  $24.36 + 32.9 + 8.783$

6. 
$$\begin{array}{r} 12.17 \\ - 9.23 \\ \hline \end{array}$$

7. 
$$\begin{array}{r} 7.5 \\ - 5.13 \\ \hline \end{array}$$

8.  $20.5 - 3.74$

9.  $7 - 4.35$

10.  $94.73 - 16.62$

*Confused?* Try watching this video:

[www.khanacademy.org/math/arithmetic/decimals/adding\\_decimals/v/subtracting-decimals](http://www.khanacademy.org/math/arithmetic/decimals/adding_decimals/v/subtracting-decimals)

## Multiplying and Dividing Decimals

Reminder: You must show **ALL WORK** on every page to receive credit!  
(a.k.a. no calculators!!!)

1.  $1.48 \times 3.6 =$  \_\_\_\_\_

2.  $6.23 \times 0.21 =$  \_\_\_\_\_

3.  $1.36 \times 3.8 =$  \_\_\_\_\_

4.  $0.74 \times 0.23 =$  \_\_\_\_\_

5.  $64.35 \div 45 =$  \_\_\_\_\_

6.  $7.4188 \div 3.4 =$  \_\_\_\_\_

7.  $15.96 \div 6 =$  \_\_\_\_\_

8.  $2.413 \div 0.019 =$  \_\_\_\_\_

## Adding and Subtracting Integers

1.  $-90 + 6 =$  \_\_\_\_\_

2.  $-45 + -44 =$  \_\_\_\_\_

3.  $-17 + 25 =$  \_\_\_\_\_

4.  $-75 + -18 =$  \_\_\_\_\_

5.  $67 - (-11) =$  \_\_\_\_\_

6.  $12 - 15 =$  \_\_\_\_\_

7.  $60 - (-13) =$  \_\_\_\_\_

8.  $35 - 125 =$  \_\_\_\_\_

**Write an expression to represent each problem and then simplify.**

**9.** The temperature on Monday was  $-15^{\circ}\text{F}$ . The temperature on Tuesday was  $6^{\circ}\text{F}$  warmer. What was the temperature on Tuesday?

Expression = \_\_\_\_\_ Answer = \_\_\_\_\_

**10.** Suppose you have a score of 25 points in a game. You get a penalty that lowers your score by 60 points. What is your new score?

Expression = \_\_\_\_\_ Answer = \_\_\_\_\_

**11.** Sort the expressions below into the table.

$6 + (-4)$       $6 - 4$       $-6 - 4$       $-8 + 6$       $3 - (-1)$       $3 + (-1)$       $-6 + 8$

Answer = 2	Answer = -2	Answer is not 2 or -2

## Multiplying and Dividing Integers

1.  $8(-6) = \underline{\hspace{2cm}}$

2.  $(-72) \div (-6) = \underline{\hspace{2cm}}$

3.  $(-9)(-9) = \underline{\hspace{2cm}}$

4.  $(-38) \div 2 = \underline{\hspace{2cm}}$

5.  $(-18)(-12) = \underline{\hspace{2cm}}$

6.  $(-72) \div (-12) = \underline{\hspace{2cm}}$

7.  $243(-7) = \underline{\hspace{2cm}}$

8.  $(-1000) \div 50 = \underline{\hspace{2cm}}$

Use the numbers in the box to fill in the blanks and complete each equation.

<b>-8</b>	<b>-21</b>	<b>15</b>	<b>-7</b>	<b>-6</b>	<b>72</b>
<b>-16</b>	<b>-14</b>	<b>-5</b>	<b>-3</b>	<b>84</b>	<b>-64</b>

9.  $\underline{\hspace{2cm}} \times 3 = \underline{\hspace{2cm}}$

10.  $\underline{\hspace{2cm}} \times \underline{\hspace{2cm}} = 40$

11.  $-45 \div \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$

12.  $\underline{\hspace{2cm}} \div -6 = \underline{\hspace{2cm}}$

13.  $-12 \times \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$

14.  $\underline{\hspace{2cm}} \div 4 = \underline{\hspace{2cm}}$



## One-Step and Two-Step Equations

\* Remember: You must show all your work to receive credit!\*

1.  $54 + x = 98$

2.  $-5x = 115$

3.  $b - 12 = -49$

4.  $450 = a - 325$

5.  $108 = -9x$

6.  $\frac{m}{-4} = 13$

7.  $2x + 3 = 15$

8.  $10 = 3 + \frac{b}{2}$

9.  $-8c + 1 = -39$

10.  $15 = -11a + 4$

Need help with two step equations? [www.khanacademy.org/math/cc-seventh-grade-math/cc-7th-variables-expressions/cc-7th-2-step-equations/v/equations-2](http://www.khanacademy.org/math/cc-seventh-grade-math/cc-7th-variables-expressions/cc-7th-2-step-equations/v/equations-2)

Answer Banks: Below are answer banks for each of the pages in the packet.

The answers are all scrambled (i.e. not in order!). There are also a few extra answers in each box. Remember, these answers are to help you check your work. You must still show ALL work to receive full credit!!

Answer Bank for Multiplying and Dividing Whole Numbers

42,083

163

179 r 96

164

1,218

97

3,536

182 r 15

42, 183

1,116

171 r 33

Answer Bank for Adding and Subtracting Fractions

$6\frac{7}{12}$

$\frac{3}{9}$

$\frac{3}{16}$

$\frac{5}{6}$

$1\frac{3}{10}$

$\frac{2}{7}$

$5\frac{7}{12}$

$2\frac{5}{16}$

$1\frac{2}{7}$

Answer Bank for Multiplying and Dividing Fractions

$\frac{2}{27}$

$5\frac{1}{6}$

6

$8\frac{13}{15}$

$\frac{2}{5}$

$43\frac{3}{4}$

$\frac{3}{10}$

$1\frac{1}{6}$

$\frac{7}{8}$

$\frac{35}{40}$

$\frac{9}{20}$

$\frac{9}{30}$

Answer Bank for Adding and Subtracting Decimals

2.37

78.11

3.4554

3.1

27.272

2.65

6.94

115.48

2.94

10.92

66.043

7.41

16.76

Answer Bank for Multiplying and Dividing Decimals

127

5.168

5.288

1.3083

130.83

17.02

2.66

0.1702

2.182

1.43

5.328

Answer Bank for Adding and Subtracting Integers

-84

-93

-35

78

3

73

-89

8

-3

56

-9

-43

-90

Answer Bank for Multiplying and Dividing Integers

81

12

216

-20

-12

18

-1701

-19

-48

-16

6

Answer Bank for One-Step and Two-Step Equations

-1

-61

775

9

-23

5

-5

-37

-52

6

44

14

-12

## ALGEBRA STUDENTS ONLY!!!

### Combining Like Terms

**Like Terms – Share the same variables and exponents**

1.  $3m + 6m$  \_\_\_\_\_
2.  $4n - 9n$  \_\_\_\_\_
3.  $12x^2 + 5x^2 - 10x^2$  \_\_\_\_\_
4.  $17xy - 4xy + 9xy$  \_\_\_\_\_
5.  $25a + 19b - 13a + 11b$  \_\_\_\_\_
6.  $3(a + b) + 5a$  \_\_\_\_\_
7.  $6(2x + y) + 2y - 12x$  \_\_\_\_\_
8.  $-5(x + 7) - 4$  \_\_\_\_\_

Create a problem with the given answer.

9. \_\_\_\_\_ + \_\_\_\_\_ =  $13n$
10. \_\_\_\_\_ + \_\_\_\_\_ - \_\_\_\_\_ =  $39xy$

### Graphing on a Coordinate Plane

Tell what point is located at each ordered pair.

11.  $(3, -2)$  \_\_\_\_\_
12.  $(2, 3)$  \_\_\_\_\_
13.  $(-5, 5)$  \_\_\_\_\_
14.  $(-7, -8)$  \_\_\_\_\_
15.  $(-4, 4)$  \_\_\_\_\_
16.  $(-5, 0)$  \_\_\_\_\_

Write the ordered pair for each given point.

17. E \_\_\_\_\_
18. M \_\_\_\_\_
19. P \_\_\_\_\_

