



**ALL SAINTS  
CATHOLIC SCHOOL**  
Growing Leaders in Mind, Body, and Spirit

# Answer Key

Going into

# Eighth Grade

Summer Coursework 2022

*Math Skills*

Name : \_\_\_\_\_

Score : \_\_\_\_\_

7

Answer key

**Integers**

L2S1

Simplify.

1)  $(-92) - 37 = \underline{-129}$

2)  $44 + 65 = \underline{109}$

3)  $79 + (-52) = \underline{27}$

4)  $(-8) \times (-11) = \underline{88}$

5)  $4 \times 14 = \underline{56}$

6)  $28 \div (-2) = \underline{-14}$

7)  $(-16) \div (-4) = \underline{4}$

8)  $(-31) + 50 = \underline{19}$

9)  $(-3) \times 17 = \underline{-51}$

10)  $(-57) - (-29) = \underline{-28}$

11)  $40 \div 5 = \underline{8}$

12)  $19 \times (-9) = \underline{-171}$

13)  $(-25) + (-77) = \underline{-102}$

14)  $76 - 34 = \underline{42}$

15)  $12 - (-63) = \underline{75}$

16)  $(-21) \div 3 = \underline{-7}$

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### Translating Phrases: One-Step Equations

Sheet 1

Translate each verbal phrase into an algebraic equation.

1) Sum of x and 3 gives 5

$$\underline{x + 3 = 5}$$

2) 2 multiplied by b is equal to 8

$$\underline{2b = 8}$$

3) Difference between y and 23 is 12

$$\underline{y - 23 = 12}$$

4) Product of 4 and z is the same as 16

$$\underline{4z = 16}$$

5) Total of m and 3 is 21

$$\underline{m + 3 = 21}$$

6) b divides 6 gives 1

$$\underline{\frac{6}{b} = 1}$$

7) n minus 2 is equal to 16

$$\underline{n - 2 = 16}$$

8) 11 times p is 33

$$\underline{11p = 33}$$

9) 20 exceeds c gives 18

$$\underline{20 - c = 18}$$

10) One-half of x is equal to 3

$$\underline{\frac{x}{2} = 3}$$

## Answer Key

## One-Step Equations

Mixed Operations: 51

Solve each equation.

1)  $2.7 = z + 9.4$

$$z = -6.7$$

2)  $k - \frac{1}{3} = 2\frac{2}{3}$

$$k = 3$$

3)  $11 = w - 5$

$$w = 16$$

4)  $8.8v = -5.28$

$$v = -0.6$$

5)  $\frac{r}{\left(\frac{-7}{9}\right)} = \frac{6}{5}$

$$r = -\frac{14}{15}$$

6)  $-9 = -2n$

$$n = \frac{9}{2} \text{ or } 4\frac{1}{2}$$

7)  $u - 4.8 = 7.6$

$$u = 12.4$$

8)  $\frac{6}{5}t = \frac{1}{3}$

$$t = \frac{5}{18}$$

9)  $y + 9 = -6$

$$y = -15$$

10)  $-3.5 = \frac{m}{1.4}$

$$m = -4.9$$

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## Answer Key

### One-Step Equations

Mixed Operations: S2

Solve each equation.

1)  $v - 10 = 12$

$v = 22$

2)  $\frac{x}{6} = -5$

$x = -30$

3)  $-\frac{k}{4.25} = -9.2$

$k = 39.1$

4)  $s - \frac{3}{8} = \frac{5}{8}$

$s = 1$

5)  $\frac{3}{7} = \frac{9}{7}u$

$u = \frac{1}{3}$

6)  $3.8 = m - 0.8$

$m = 4.6$

7)  $-4.2 = 5.2 + t$

$t = -9.4$

8)  $\frac{1}{3} = \frac{w}{\left(3\frac{1}{4}\right)}$

$w = \frac{13}{12}$  or  $1\frac{1}{12}$

9)  $-64 = 8r$

$r = -8$

10)  $z + \frac{6}{5} = -\frac{8}{3}$

$z = -\frac{58}{15}$  or  $-3\frac{13}{15}$

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### One-Step Equations: Fractions

Mixed Operations Level 2: S1

Solve each equation.

1)  $7 = \frac{8}{9} + q$

$$q = \frac{55}{9} \text{ or } 6\frac{1}{9}$$

2)  $4\frac{1}{6} = \frac{m}{\left(\frac{3}{5}\right)}$

$$m = \frac{5}{2} \text{ or } 2\frac{1}{2}$$

3)  $-\frac{7}{4} = -6\frac{2}{3}u$

$$u = \frac{21}{80}$$

4)  $15 + c = 2\frac{7}{8}$

$$c = -\frac{97}{8} \text{ or } -12\frac{1}{8}$$

5)  $v - \frac{8}{5} = \frac{3}{2}$

$$v = \frac{31}{10} \text{ or } 3\frac{1}{10}$$

6)  $\frac{5}{3}y = \frac{5}{6}$

$$y = \frac{1}{2}$$

7)  $\frac{x}{\left(-\frac{2}{3}\right)} = -\frac{6}{7}$

$$x = \frac{4}{7}$$

8)  $n - 9\frac{3}{4} = 3$

$$n = \frac{51}{4} \text{ or } 12\frac{3}{4}$$

9)  $-\frac{9}{8} = 2\frac{1}{2}a$

$$a = -\frac{9}{20}$$

10)  $3\frac{5}{7} + g = 4\frac{2}{5}$

$$g = \frac{24}{35}$$

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### Two-Step Equations: Whole Numbers

Sheet 1

Solve each equation.

1)  $9c + 1 = 10$

$c = 1$

2)  $6y - 5 = 7$

$y = 2$

3)  $8 = 3a - 4$

$a = 4$

4)  $\frac{m}{5} + 9 = 11$

$m = 10$

5)  $13 + 7x = 27$

$x = 2$

6)  $17 - q = 6$

$q = 11$

7)  $\frac{n - 31}{4} = 2$

$n = 39$

8)  $1 + 2r = 35$

$r = 17$

9)  $42 + 5t = 8t$

$t = 14$

10)  $4p - 3 = 17$

$p = 5$

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## Answer Key

Sheet 1

### Two-Step Equations: Integers

Solve each equation.

1)  $5n + 5 = 45$

**$n = 8$**

2)  $\frac{y}{6} - 3 = -11$

**$y = -48$**

3)  $4(g - 1) = 24$

**$g = 7$**

4)  $\frac{v+9}{15} = 0$

**$v = -9$**

5)  $-40 = 12x + 8$

**$x = -4$**

6)  $-2p - 3 = -19$

**$p = 8$**

7)  $13 = \frac{w - 14}{2}$

**$w = 40$**

8)  $36 = 1 + 7a$

**$a = 5$**

9)  $-9 = -11 + \frac{b}{8}$

**$b = 16$**

10)  $2q + 10 = 7q$

**$q = 2$**



**Two-Step Equations: Fractions**

Solve each equation.

1)  $\frac{7}{6}d + \frac{4}{3} = -\frac{1}{3}$

$$d = -\frac{10}{7} \text{ or } -1\frac{3}{7}$$

2)  $5\frac{1}{2} - u = \frac{9}{4}$

$$u = \frac{13}{4} \text{ or } 3\frac{1}{4}$$

3)  $-m - \frac{7}{8} = -10$

$$m = \frac{73}{8} \text{ or } 9\frac{1}{8}$$

4)  $\frac{2}{7} = \frac{4}{5} + 9q$

$$q = -\frac{2}{35}$$

5)  $2\frac{2}{5} = \frac{3}{8} + \frac{h}{\left(\frac{1}{3}\right)}$

$$h = \frac{27}{40}$$

6)  $\frac{5}{9}c - \frac{3}{4} = \frac{7}{9}c$

$$c = -\frac{27}{8} \text{ or } -3\frac{3}{8}$$

7)  $\frac{9}{4}\left(w - \frac{1}{9}\right) = \frac{7}{2}$

$$w = \frac{5}{3} \text{ or } 1\frac{2}{3}$$

8)  $\frac{y}{\left(\frac{5}{3}\right)} + 5 = 2\frac{5}{6}$

$$y = -\frac{65}{18} \text{ or } -3\frac{11}{18}$$

9)  $-\frac{2}{3}p + \frac{8}{3} = -3p$

$$p = -\frac{8}{7} \text{ or } -1\frac{1}{7}$$

10)  $-2\frac{1}{7}n - \frac{6}{7} = -1\frac{3}{7}$

$$n = \frac{4}{15}$$

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Answer key

**One-Step Equations - Integers**

Add/Sub: S1

- 1) Natalie buys organic almonds priced at \$77 from the grocery store. How much did she pay the cashier, if she received \$23 in change?

$x - 77 = 23 ; \$100$

- 2) Lara and Mae participated in a quiz contest. They scored 23 points in all. If Lara scored 9 points, how many points did Mae score?

$x + 9 = 23 ; 14 \text{ points}$

- 3) John was gifted a pack of crayons. He gave 13 crayons to his friend Rhea and was left with 11 crayons. How many crayons did the pack contain?

$x - 13 = 11 ; 24 \text{ crayons}$

- 4) Smith and his friends are gaming online on a popular website. An hour later, 6 friends go offline. Five of them continue playing. How many of them were gaming online initially?

$x - 6 = 5 ; 11 \text{ persons}$

- 5) Trevor takes up a test at school and completes it in an hour. The test has two sections. If he takes 35 minutes to complete the first section, how much time does he have left to complete the second section?

$x + 35 = 60 ; 25 \text{ minutes}$

## Answer key

**One-Step Equations - Fractions & Decimals**

Add/Sub: S1

- 1) Selena is baking chocolate chip cookies. The recipe calls for  $2\frac{1}{3}$  cups of semi-sweet chocolate chips. If she has already put in  $1\frac{1}{2}$  cups into the batter, how many more cups of chocolate chips should be added to the batter?

$$x + 1\frac{1}{2} = 2\frac{1}{3} ; \frac{5}{6} \text{ cups}$$

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- 2) Rose has two baskets; one contains apples and the other contains bananas. Together, the baskets weigh 5.55 pounds. Find the weight of the basket of bananas, if the apple basket weighs 2.34 pounds.

$$x + 2.34 = 5.55 ; 3.21 \text{ pounds}$$

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- 3) A metal manufacturing company reduces the length of a 12.5-inch cylindrical rod, after which the rod measures 7.8 inches. How many inches was the rod shortened by?

$$x + 7.8 = 12.5 ; 4.7 \text{ inches}$$

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- 4) Alice has  $x$  dollars in her account. She spends \$35.31 to buy medicines for her grandmother. If the balance in her account is \$161.23, what was the amount in her account before purchase?

$$x - 35.31 = 161.23 ; \$196.54$$

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- 5) Clara watches a horror movie in a theater. The movie has a running time of  $1\frac{2}{3}$  hours. She leaves midway, and misses  $\frac{5}{6}$  hours of the movie. How long did Clara watch the movie ?

$$x + \frac{5}{6} = 1\frac{2}{3} ; \frac{5}{6} \text{ hours}$$

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Score : \_\_\_\_\_ **7**

## Answer key

### One-Step Equations - Integers

Mul/Div: S1

- 1) Jamie paid the rent well past the due date for the months of April, May and June. As a result, he had been charged a total of \$75 as late fee. How much did he pay as late fee per month?

$$\underline{3x = 75 ; \$25}$$

- 2) The kindergarten section of Lehigh Valley has 12 classrooms. If each classroom can accommodate 15 kids, how many kids can the kindergarten section accommodate in all?

$$\underline{\frac{x}{12} = 15 ; 180 \text{ kids}}$$

- 3) Juan sells raffle tickets at a charity event for \$6 each. How many tickets does he have to sell to make \$114?

$$\underline{6x = 114 ; 19 \text{ tickets}}$$

- 4) Melanie works as a nanny and is paid \$14 per hour. If she puts in 40 hours of work in 7 days, how much does she earn in a week?

$$\underline{\frac{x}{14} = 40 ; \$560}$$

- 5) The non-fiction section of the Montgomery County Library has 17 racks. If each rack holds 528 books, what is the total collection of non-fiction books in the library?

$$\underline{\frac{x}{17} = 528 ; 8976 \text{ books}}$$