

How to Administer the Quick Check:

- The Quick Check consists of two parts: an Instructor portion which includes solutions and a Student portion with problems for each concept.
- **Your student need only complete the Quick Check problems for the concepts for which you responded **Unsure**.**
- Have your student complete the Quick Check items independently. You may attempt to clarify the wording of a question, but you should not provide hints about how to solve a problem.
- Return to the Question Block when you have checked your student's work.
- *You should now be able to answer **Yes** or **No** for each question.*
- Click **Next** to go to the next screen.

8.1

Can my student describe the difference between negative and positive numbering using concrete examples?

8.1

Carol's account has a balance of $-\$20.00$. What does this mean in terms of funds in Carol's account?

Sample Answer: This means that Carol owes $\$20.00$ to her account.

8.1b

Bryan withdrew $\$10$ from his savings account five days in a row. Describe the impact on Bryan's account and write an equation using positive and negative numbers to represent it.

Sample Answer: $5(\$-10) = -\50 or $5 \times -10 = -50$ or $-10 \times 5 = -50$

The amount of money in Bryan's savings account would be reduced by a total of $\$50$.



8.2

Can my student fluently add, subtract, multiply, and divide both positive and negative numbers?

8.2a

Without using a calculating device: $(-43) + (+98) =$ _____

55

$$(-43) + (+98) = 55$$

8.2b

Without using a calculating device: $7 - (-13) =$ _____

20

$$7 - (-13) = 7 + 13 = 20$$

8.2c

Without using a calculating device: $-14 \times 9 =$ _____

-126

$$-14 \times 9 = -126$$

8.2d

Without using a calculating device: $-25 \div -5 =$ _____

5

$$-25 \div -5 = 5$$



8.3

Can my student evaluate positive whole-number exponents, and does my student understand that the exponent represents the number of times the base is used as a factor?

8.3a

Evaluate 2^5 and express as a multiplication problem.

32

$$2^5 = 2 \times 2 \times 2 \times 2 \times 2 = 32$$

8.3b

Evaluate $(-\frac{1}{3})^3$ and express as a multiplication problem.

$$(-\frac{1}{3})^3 = (-\frac{1}{3})(-\frac{1}{3})(-\frac{1}{3}) = -\frac{1}{27}$$



8.4

Can my student explain the relationship between radicals (square roots) and exponents, and can they work with expressions containing radicals?

8.4a

Evaluate $\sqrt{36}$ and explain the result using exponents and/or multiplication.

6

$\sqrt{36} = 6$ because 6^2 or $6 \times 6 = 36$

8.4b

Evaluate $\sqrt{121}$ and explain the results using exponents and/or multiplication.

11

$\sqrt{121} = 11$ because 11^2 or $11 \times 11 = 121$



8.5

Is my student proficient in solving one-variable equations that may include applying the order of operations to expressions with multiple operations, exponents, and groupings?

8.5a

Solve for x : $x(2 + 2) + 5x - 12 = x(4 + 4) - 2$

$$x = 10$$

$$x(4) + 5x - 12 = x(8) - 2$$

$$4x + 5x - 12 = 8x - 2$$

$$9x - 12 = 8x - 2$$

$$9x - 12 + 12 = 8x - 2 + 12$$

$$9x = 8x + 10$$

$$9x - 8x = 8x - 8x + 10$$

$$x = 10$$

8.5b

Solve for x : $144(x + 3) = 36(48 + 32)$

$$x = 17$$

$$144(x + 3) = 36(80)$$

$$144x + 432 = 2,880$$

$$144x + 432 - 432 = 2,880 - 432$$

$$144x = 2,448$$

$$\frac{1}{144} \times 144x = 2,448 \times \frac{1}{144} \text{ or } \frac{144x}{144} = \frac{2,448}{144}$$

$$x = 17$$



How to complete the Quick Check:

- You only need to complete the problems your parent or instructor assigns.

8.1

8.1 Carol's account has a balance of $-\$20.00$. What does this mean in terms of funds in Carol's account?

8.1b Bryan withdrew $\$10$ from his savings account five days in a row. Describe the impact on Bryan's account and write an equation using positive and negative numbers to represent it.



8.2

8.2a

Without using a calculating device: $(-43) + (+98) =$ _____

8.2b

Without using a calculating device: $7 - (-13) =$ _____

8.2c

Without using a calculating device: $-14 \times 9 =$ _____

8.2d

Without using a calculating device: $-25 \div -5 =$ _____

8.3

8.3a

Evaluate 2^5 and express as a multiplication problem.

8.3b

Evaluate $(-\frac{1}{3})^3$ and express as a multiplication problem.

8.4

8.4a

Evaluate $\sqrt{36}$ and explain the result using exponents and/or multiplication.

8.4b

Evaluate $\sqrt{121}$ and explain the results using exponents and/or multiplication.



8.5

8.5a

Solve for x : $x(2 + 2) + 5x - 12 = x(4 + 4) - 2$

8.5b

Solve for x : $144(x + 3) = 36(48 + 32)$