

Integers and Fractions Quiz

Time: 20 min. 6 questions.

Instructions

Answer all six questions in the space provided or on a separate sheet. Show your work for any question that involves a calculation. You may use a calculator to check your answers, but you must show the steps you used to get there.

Questions

1. What is the sign of the product when you multiply two negative integers together, such as $(-6) \times (-5)$?

- A) Positive
- B) Negative
- C) Zero
- D) It depends on which two numbers you choose

[\(Knowledge\)](#)

2. A reciprocal is the multiplicative inverse of a fraction, and the product of a fraction and its reciprocal is 1. In your own words, explain what a reciprocal is, and write the reciprocal of $\frac{5}{8}$. Then show that $\frac{5}{8}$ multiplied by its reciprocal equals 1.

[\(Knowledge\)](#)

3. A recipe calls for $\frac{2}{3}$ cup of flour, but you are only making $\frac{3}{4}$ of the recipe. Explain how you would calculate the amount of flour needed, and show your work to find the answer as a fraction in simplest form.

[\(Knowledge\)](#)

4. True or false: The expression $a - b$ can also be written as $a + (-b)$.

[\(Knowledge\)](#)

5. In the expression $5 - 3 \times (-2) + 4$, which operation should be performed first, according to the conventional order of operations?

- A) $5 - 3$
- B) $3 \times (-2)$
- C) $(-2) + 4$
- D) It does not matter which operation comes first

[\(Knowledge\)](#)

6. A weather balloon descends 84 m in 12 equal stages, moving down the same distance each stage. Compute the change in height for one stage using a division statement with integers.

[\(Skills\)](#)

Curriculum coverage

Question	Outcome alias
1	Knowledge
2	Knowledge

3	Knowledge
4	Knowledge
5	Knowledge
6	Skills

Answer key

1. A) Positive. The product of two negative integers is always positive.
2. The reciprocal of $\frac{5}{8}$ is $\frac{8}{5}$. Multiplying $\frac{5}{8} \times \frac{8}{5}$ gives $\frac{40}{40}$, which equals 1, confirming that a fraction and its reciprocal always multiply to 1.
3. $\frac{1}{2}$ cup. Multiply $\frac{2}{3} \times \frac{3}{4}$ by multiplying numerators ($2 \times 3 = 6$) and denominators ($3 \times 4 = 12$) to get $\frac{6}{12}$, which simplifies to $\frac{1}{2}$.
4. True. Subtracting a number gives the same result as adding its negative, so $a - b = a + (-b)$.
5. B) $3 \times (-2)$. The order of operations requires multiplication to be completed before addition or subtraction.
6. $-84 \div 12 = -7$. The change in height for one stage is -7 m, where the negative sign indicates the balloon is descending.