

Integers and Fractions Homework

This sheet gives you practice adding, subtracting, multiplying, and dividing positive and negative numbers ([Outcome](#), [Skills](#), [Skills](#)) and practice multiplying and dividing positive fractions ([Outcome](#), [Knowledge](#), [Skills](#), [Knowledge](#)). Show your work in the space provided so your teacher can see how you reached each answer.

Exercises

1. Integer addition, subtraction, and order of operations

Find each value. Remember that subtracting a number is the same as adding its opposite ([Knowledge](#), [Understanding](#)), and that the order of operations applies to integers just as it does to whole numbers ([Knowledge](#), [Skills](#)).

- a) $8 + 5 =$ _____
- b) $12 - (-7) =$ _____
- c) $-3 - 9 =$ _____
- d) $6 + (-14) =$ _____
- e) $-5 + 3 \times (-2) =$ _____

2. Sign of a product or quotient

Circle the correct sign for each expression, then work out the answer on the line ([Skills](#), [Knowledge](#)).

- a) $(-4) \times (-6)$ A) positive B) negative Answer: _____
- b) $15 \div (-3)$ A) positive B) negative Answer: _____
- c) $(-9) \times 2 \times (-1)$ A) positive B) negative Answer: _____
- d) $(-36) \div (-9)$ A) positive B) negative Answer: _____

3. Multiplying fractions

Multiply each pair of fractions and write your answer in simplest form. Multiplying two proper fractions can be pictured as taking a part of a part ([Skills](#), [Understanding](#)), and the product is found by multiplying numerators and multiplying denominators ([Knowledge](#)).

- a) $\frac{2}{3} \times \frac{3}{5} =$ _____
- b) $\frac{5}{6} \times \frac{4}{7} =$ _____
- c) $\frac{1}{2} \times \frac{2}{9} =$ _____

4. Dividing fractions

Dividing by a fraction is the same as multiplying by its reciprocal ([Knowledge](#)). Solve each and write your answer in simplest form.

- a) $\frac{3}{4} \div \frac{1}{2} =$ _____
- b) $5 \div \frac{2}{3} =$ _____
- c) $\frac{7}{8} \div \frac{7}{8} =$ _____

5. Matching reciprocals

The reciprocal of a fraction is the number you multiply it by to get 1 ([Skills](#)). Match each number in Column A to its reciprocal in Column B by writing the correct letter on the line.

Column A	Match	Column B
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1) $\frac{3}{4}$	_____	A) $\frac{5}{2}$
2) $\frac{2}{5}$	_____	B) $\frac{4}{3}$
3) 7	_____	C) $\frac{1}{7}$
4) $\frac{5}{9}$	_____	D) $\frac{9}{5}$

6. Word problems

Solve each problem. Write the expression you use before you solve it ([Understanding](#), [Skills](#)).

a) A research submarine descends $\frac{3}{4}$ of a kilometre every hour. How many hours will it take to reach a depth of 6 kilometres?

Expression: _____ Answer: _____

b) The temperature starts at 3°C and drops 2°C every hour for 5 hours. What is the temperature after 5 hours?

Expression: _____ Answer: _____

Answer key

- a) " 3 b) 19 c) " 12 d) " 8 e) " 11
- a) positive, 24 b) negative, " 5 c) positive, 18 d) positive, 4
- a) $\frac{2}{5}$ b) $\frac{10}{21}$ c) $\frac{1}{9}$
- a) $\frac{3}{2}$ ($1\frac{1}{2}$) b) $\frac{15}{2}$ ($7\frac{1}{2}$) c) 1
- 1, B, 2, A, 3, C, 4, D
- a) $6 \div \frac{3}{4} = 8$ hours b) $3 + 5 \times (" 2) = " 7^{\circ}\text{C}$