

Review #1

Friday, June 3, 2022

9:24 AM

Review of Math 9 – Part 1 Operations with integers and fractions

Integers

Whole numbers that are positive and negative

eg 3, -2, 0, 4, -5

Order of operations

- Brackets
- Exponents
- Multiplication and division in the order they occur
- Addition and subtraction in the order they occur

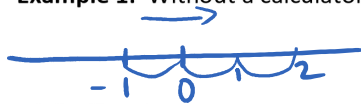
Sum is the result of addition

Difference is the result of subtraction

Product is the result of multiplication

Quotient is the result of division

Example 1: Without a calculator, evaluate. Show your work if necessary.



$$\begin{aligned} \text{a) } (-1) + 3 \\ = 2 \end{aligned}$$

$$\begin{aligned} \text{b) } 4 - (-5) \\ = 4 + 5 \\ = 9 \end{aligned}$$



$$\begin{aligned} \text{c) } 4 - 7 \\ = -3 \end{aligned}$$

$$\begin{aligned} \text{d) } (-1) \times 3 \\ = -3 \end{aligned}$$

$$\begin{aligned} \text{e) } (-4) \times (-5) \\ = 20 \end{aligned}$$

$$\begin{aligned} \text{f) } 4 \times (-7) \\ = -28 \end{aligned}$$

$$\begin{aligned} \text{g) } (-1) \times 3 - 5 \\ = -3 - 5 \\ = -8 \end{aligned}$$

$$\begin{aligned} \text{h) } 4^2 + (-5) \\ 4^2 = 4 \times 4 \\ = 16 + (-5) \\ = 11 \end{aligned}$$

$$\begin{aligned} \text{i) } 2(4 - 7) \\ = 2(-3) \\ = -6 \end{aligned}$$

Operations with fractions

$$\frac{3}{4}$$

3 ← Numerator
4 ← Denominator

1) Addition and subtraction of fractions

- Find a common denominator
- For each fraction, multiply the numerator and denominator (top and bottom) by the same number
- Add or subtract the numerators (tops)

2) Multiplication of fractions

- Multiply the numerators together
- Multiply the denominators together

3) Division of fractions

- Rewrite in the form of multiplication
 - Multiply the reciprocal of the second fraction

Simplifying fractions

A fraction is in simplest form when the numerator and the denominator are as small as possible. To reduce a fraction to simplest form divide the numerator and denominator by the same number.

Example 2: Evaluate and simplify if necessary.

$$\text{a) } \frac{1}{5} + \frac{3}{5} \\ = \frac{4}{5}$$

$$\text{b) } \frac{1}{5} + \frac{4}{3} \\ = \frac{3 \cdot 1}{3 \cdot 5} + \frac{4 \cdot 5}{3 \cdot 5} \\ = \frac{3}{15} + \frac{20}{15} \\ = \frac{23}{15}$$

$$\text{c) } \frac{7}{3} - \frac{5}{6} \\ = \frac{2 \cdot 7}{2 \cdot 3} - \frac{5}{6} \\ = \frac{14}{6} - \frac{5}{6} \\ = \frac{9}{6} \div 3 \\ = \frac{3}{2}$$

$$\text{d) } \frac{2}{5} \times \frac{3}{8} \\ = \frac{6}{40} \div 2 \\ = \frac{3}{20}$$

$$= \frac{\cancel{2}}{5} \times \frac{3}{\cancel{8} 4} \\ = \frac{3}{20}$$

$$\text{e) } \frac{1}{2} \div \frac{3}{4} \\ = \frac{1}{2} \times \frac{4}{3} \\ = \frac{4}{6} \div 2 \\ = \frac{2}{3}$$

$$\text{f) } \frac{2}{7} \times 4 \\ = \frac{2}{7} \times \frac{4}{1} \\ = \frac{8}{7}$$

Mrs. Shaw

F & PC 10