



The National
Orthodox School
Shmaisani

Grade Eight CS

Working with fractions

Adding and subtracting fractions

Student Name: Answers

I. Before you start

Simplify the following fractions (Choose two):

a) $\frac{28}{70} = \frac{4}{10} = \frac{2}{5}$

b) $\frac{8}{96} = \frac{1}{12}$

c) $\frac{18}{162} = \frac{9}{81} = \frac{1}{9}$

d) $\frac{15}{75} = \frac{3}{15} = \frac{1}{5}$

Convert the following improper fractions into mixed numbers:

a) $\frac{18}{5} = 3 \frac{3}{5}$

b) $\frac{43}{20} = 2 \frac{3}{20}$

Convert the following mixed numbers into improper fractions:

a) $9 \frac{1}{4} = \frac{37}{4}$

b) $16 \frac{2}{3} = \frac{50}{3}$

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II. Ready to start

Work out the following. Simplify your answer!

a) $\frac{3}{14} + \frac{11}{14} = \frac{14}{14} = 1$

b) $\frac{13}{16} + \frac{11}{16} = \frac{24}{16} = 1\frac{8}{16} = 1\frac{1}{2}$

c) $\frac{13}{21} - \frac{10}{21} = \frac{3}{21} = \frac{1}{7}$

d) $\frac{6}{40} - \frac{1}{10} = \frac{6}{40} - \frac{4}{40} = \frac{2}{40} = \frac{1}{20}$

e) $6\frac{3}{5} + 4\frac{1}{2} = \frac{33}{5} + \frac{9}{2} = \frac{66}{10} + \frac{45}{10} = \frac{111}{10} = 11\frac{1}{10}$

f) $4\frac{1}{5} - 2\frac{2}{3} = \frac{21}{5} - \frac{8}{3} = \frac{63}{15} - \frac{40}{15} = \frac{23}{15} = 1\frac{8}{15}$

III. Do you know what does a UNIT Fraction mean?

Unit Fraction:

Unit Fraction is a fraction with a numerator of 1.

Examples:

$\frac{1}{20}, \frac{1}{7}, \frac{1}{200}$

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IV. Real Life Applications (Choose Two)

- a) A plank of wood is 4 m in length. How long will it be if I cut $\frac{5}{8}$ m of wood from it?

$$\frac{4}{1} \overset{\times 8}{=} \frac{32}{8} - \frac{5}{8} = \frac{27}{8} = 3 \frac{3}{8} \text{ m}$$

- b) Haya spent $\frac{7}{18}$ of her money on Sunday. She spent $\frac{1}{3}$ of her money on Monday. What fraction of money did she spend on Sunday and Monday? What fraction of money did she have left?

$$\frac{7}{18} + \frac{1}{3} \overset{\times 6}{=} \frac{7}{18} + \frac{6}{18} = \frac{13}{18}$$

$$\frac{18}{18} - \frac{13}{18} = \frac{5}{18}$$

- c) A container holds $3\frac{1}{2}$ litres of juice. How much juice is left in the container if Yasma drinks $\frac{1}{4}$ litres?

$$3\frac{1}{2} \overset{\times 2}{=} - \frac{1}{4} =$$

$$3\frac{2}{4} - \frac{1}{4} = 3\frac{1}{4} \text{ L}$$

Thank you!

v. Think... Pair... Share

- a) **Puzzle 1:** I'm equivalent to $\frac{128}{208}$ and my denominator is a prime number. What am I?

$$\frac{128}{208} \stackrel{\div 8}{=} \frac{16}{26} \stackrel{\div 2}{=} \frac{8}{13}$$

- b) **Puzzle 2:** I'm equivalent to $1\frac{8}{9}$ and as an improper fraction the sum of my numerator and denominator is 52. What am I?

$$1\frac{8}{9} = \frac{17}{9} \stackrel{\times 2}{=} \frac{34}{18}$$

vi. How do you feel about this lesson?

Do you need extra help?

Ask your teacher about anything you do not understand.

vii. Can you solve one more? (Optional)

Find the value of the letter in the following:

$$1\frac{a}{5} + 3\frac{3}{10} = 5\frac{1}{10}$$

$$5\frac{1}{10} - 3\frac{3}{10} = 1\frac{a}{5}$$

$$\frac{51}{10} - \frac{33}{10} = 1\frac{a}{5}$$

$$\frac{18}{10} = 1\frac{8}{10} \stackrel{\div 2}{=} 1\frac{4}{5} = 1\frac{a}{5}$$

Thank you!

$$a = 4$$

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