Musaeus College

Study Pack 2 / Week 2 /March 2020

Grade : 8   Subject : Mathematics   Medium : English
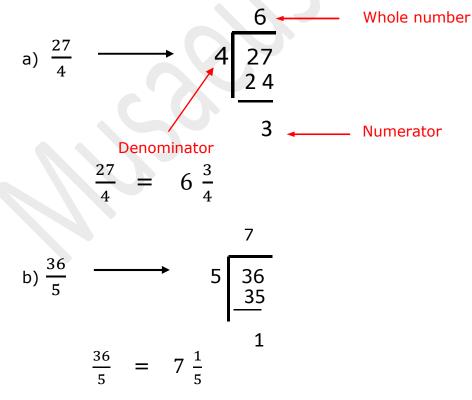
13 - Fraction I (no of periods - 5)

Lesson 1:

- ➢ Review
- ➢ Represent the following mixed numbers as improper fractions

a) $2\frac{1}{5} = \frac{2 \times 5 + 1}{5} = \frac{11}{5}$

b) $4\frac{2}{3} = \frac{4 \times 3 + 2}{3} = \frac{14}{3}$

- ➢ Representing the following improper fractions as mixed numbers

a) $\frac{27}{4} \longrightarrow$

$$
\begin{array}{r}
6 \\
4\overline{\smash{\big)}\,27} \\
24 \\
\hline
3
\end{array}
$$

Whole number

Denominator

Numerator

$\frac{27}{4} = 6\frac{3}{4}$

b) $\frac{36}{5} \longrightarrow$

$$
\begin{array}{r}
7 \\
5\overline{\smash{\big)}\,36} \\
35 \\
\hline
1
\end{array}
$$

$\frac{36}{5} = 7\frac{1}{5}$

- ❖ Complete Review Exercises

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Lesson 2:

Multiplying a fraction by a whole number

Example

1) $\dfrac{2}{9} \times 4$

(Denominator of any whole number is 1, therefore $4 = \dfrac{4}{1}$)

$\therefore \quad \dfrac{2}{9} \times \dfrac{4}{1} \;=\; \dfrac{2 \times 4}{9 \times 1} \;=\; \dfrac{8}{9}$

Numerator of the resultant fraction is the product of two numerators and its denominator is the same as that of the given fraction.

2) $\dfrac{1}{5} \times 3 \;=\; \dfrac{1}{5} \times \dfrac{3}{1} \;=\; \dfrac{1 \times 3}{5 \times 1} \;=\; \dfrac{3}{5}$

3) $\dfrac{5}{8} \times 2 \;=\; \dfrac{5}{8} \times \dfrac{2}{1} \;=\; \dfrac{5 \times 2}{8 \times 1} \;=\; \dfrac{10}{8} \;=\; \dfrac{5}{4} \;=\; 1\dfrac{1}{4}$

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Lesson 3:

❖ Complete Exercise 13.1

Lesson 4:

<u>Multiplying a Fraction by a Fraction</u>

<u>Example</u>

Simplify

1) $\dfrac{1}{2} \times \dfrac{3}{5} = \dfrac{1 \times 3}{2 \times 5}$ (Product of two numerators)

   (Product of two denominators)

   $= \dfrac{3}{10}$

2) $\dfrac{3}{8} \times \dfrac{2}{3} = \dfrac{3 \times 2}{8 \times 3} = \dfrac{6 \div 6}{24 \div 6} = \dfrac{1}{4}$

3) $\dfrac{5}{9} \times \dfrac{1}{2} = \dfrac{5 \times 1}{9 \times 2} = \dfrac{5}{18}$

<u>Note</u>

$$\text{Example 2)} \quad \frac{\overset{1}{\cancel{3}} \times 2}{8 \times \underset{1}{\cancel{3}}} = \frac{1 \times \overset{1}{\cancel{2}}}{\underset{4}{\cancel{8}} \times 1} = \frac{1}{4}$$

Lesson 5:

❖ Complete Exercise 13.2

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