



Provincial Department of Education – Sabaragamuwa – Week School

Subject: Mathematics

Week: 17

Grade -10

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13. Algebraic Fractions

Period 01 (40 minutes)

For reminding grade 09 content

**Complete the revision exercise in
page no 133 in your text book.**

Period 02 (40 minutes)

Algebraic fractions with unequal denominators.

$$\begin{aligned} & \frac{5}{3m} + \frac{3}{8m^2} \\ &= \frac{5 \times 8m}{3m \times 8m} + \frac{3 \times 3}{8m^2 \times 3} \\ &= \frac{40m}{24m^2} + \frac{9}{24m^2} \\ &= \frac{40m+9}{24m^2} \end{aligned}$$

$$\begin{aligned} & \frac{6}{7a} - \frac{2}{3a} + \frac{2}{a^2} \\ &= \frac{6 \times 3a}{7a \times 3a} - \frac{2 \times 7a}{3a \times 7a} + \frac{2 \times 21}{a^2 \times 21} \\ &= \frac{18a}{21a^2} - \frac{14a}{21a^2} + \frac{42}{21a^2} \\ &= \frac{4a+42}{21a^2} \end{aligned}$$

**Complete the exercise
13.1 in page no 134 in
your text book**

Period 03 (40 minutes)

$$\begin{aligned} & \frac{5}{p+3} - \frac{2}{2p-1} \\ &= \frac{5(2p-1) - 2(p+3)}{(p+3)(2p-1)} \\ &= \frac{10p-5-2p-6}{(p+3)(2p-1)} \\ &= \frac{8p-11}{(p+3)(2p-1)} \end{aligned}$$

$$\begin{aligned} & \frac{7}{2(p+3)} - \frac{5}{3(p-1)} \\ &= \frac{7 \times 3(p-1) - 5 \times 2(p+3)}{6(p+3)(p-1)} \\ &= \frac{21p-21-10p-30}{6(p+3)(p-1)} \\ &= \frac{11p-51}{6(p+3)(p-1)} \end{aligned}$$

**Complete part A in exercise 13.2
in page no 136 in your text book.**

Period 04 (40 minutes)

$$\frac{3}{x^2+7x-30} + \frac{5}{x^2-100}$$

$$= \frac{3 \times (x-10) + 5(x-3)}{(x-10)(x+10)(x-3)}$$

$$= \frac{3x-30+5x-15}{(x-10)(x+10)(x-3)}$$

$$= \frac{8x-45}{(x-10)(x+10)(x-3)}$$

$$x^2 + 7x - 30 = (x + 10)(x - 3)$$

$$x^2 - 100 = (x - 10)(x + 10)$$

$$\text{L.C.M} = (x - 10)(x + 10)(x - 3)$$

Simplify.

$$\frac{1}{(x-1)} + \frac{3}{(x+1)} - \frac{2}{(x^2-1)}$$

$$= \frac{(x+1)}{(x-1)(x+1)} + \frac{3(x-1)}{(x-1)(x+1)} - \frac{2}{(x-1)(x+1)}$$

$$\frac{x+1+3x-3-2}{(x-1)(x+1)}$$

$$= \frac{4x-4}{(x-1)(x+1)}$$

$$= \frac{4(x-1)}{(x-1)(x+1)}$$

$$= \frac{4}{(x+1)}$$

Complete part (B) of exercise 13.2 in page no 136 in your text book.