Assessment 2 Revision

Fractions

Addition

$$\frac{7}{8} + \frac{4}{5}$$

$$= \frac{35 + 32}{40} = \frac{67}{40}$$

$$= 1\frac{27}{40}$$

Subtraction

$$\frac{8}{9} - \frac{1}{2}$$

$$= \frac{16 - 9}{18}$$

$$= \frac{7}{18}$$

Multiplication

$$\frac{1\cancel{7}}{10} \times \frac{3}{\cancel{14}_2}$$

$$= \frac{1 \times 3}{10 \times 2}$$

$$= \frac{3}{20}$$

Division

$$\frac{15}{16} \div \frac{3}{4}$$

$$\frac{\cancel{15}^5}{\cancel{16}_4} \times \frac{\cancel{4}^1}{\cancel{3}_1}$$

$$\frac{5 \times 1}{4 \times 1} = \frac{5}{4} = 1\frac{1}{4}$$

Exercise

1) $\frac{3}{8} + \frac{5}{6}$

$$= \frac{9 + 20}{24}$$

$$= \frac{29}{24}$$

$$= 1\frac{5}{24}$$

2) $\frac{9}{14} - \frac{1}{2}$

$$= \frac{9 - 7}{14}$$

$$= \frac{2}{14} = \frac{1}{7}$$

3) $\frac{2}{5} \times \frac{7}{8_4}$

$= \frac{1 \times 7}{5 \times 4}$

$= \frac{7}{20}$

4) $\frac{5}{6} \div \frac{2}{3}$

$= \frac{5}{6_2} \times \frac{3}{2}$

$= \frac{5 \times 1}{2 \times 2} = \frac{5}{4} = 1\frac{1}{4}$

Mixed Number Arithmetic

Ex1 $2\frac{3}{4} + 1\frac{4}{5}$

$= 3\frac{15+16}{20}$

$= 3\frac{31}{20}$

$= 4\frac{11}{20}$

Ex2 $8\frac{1}{4} - 1\frac{2}{3}$ (12+)

$= 7\frac{3-8}{12}$

$= 6\frac{7}{12}$

Ex3 $2\frac{1}{4} \times 1\frac{2}{3}$

$= \frac{9^3}{4} \times \frac{5}{3_1}$

$= \frac{3 \times 5}{4 \times 1}$

$= \frac{15}{4} = 3\frac{3}{4}$

Ex4 $5\frac{1}{4} \div 1\frac{2}{5}$

$= \frac{21}{4} \div \frac{7}{5}$

$= \frac{21^3}{4} \times \frac{5}{7_1}$

$= \frac{3 \times 5}{4 \times 1}$

$= \frac{15}{4} = 3\frac{3}{4}$

Exercise

1) $1\frac{3}{4} + 1\frac{2}{5}$

$= 2\frac{15+8}{20}$

$= 2\frac{23}{20}$

$= 3\frac{3}{20}$

2) $8\frac{1}{2} - 1\frac{2}{3}$

$= 6\frac{3-4}{6}$ (6 carried)

$= 6\frac{5}{6}$

3) $3\frac{3}{4} \times 1\frac{2}{5}$

$= \frac{15}{4} \times \frac{7}{5}$ (3, 1)

$= \frac{3 \times 7}{4 \times 1}$

$= \frac{21}{4} = 5\frac{1}{4}$

4) $7\frac{1}{2} \div 1\frac{3}{4}$

$= \frac{15}{2} \div \frac{7}{4}$

$= \frac{15}{2} \times \frac{4}{7}$ (2, 1)

$= \frac{15 \times 2}{1 \times 7}$

$= \frac{30}{7} = 4\frac{2}{7}$

Ordering Fractions

Ex Write in ascending order

$\frac{1}{2}, \frac{1}{3}, \frac{4}{5}, \frac{2}{7}, \frac{6}{10}$

$\frac{2}{7}, \frac{1}{3}, \frac{1}{2}, \frac{6}{10}, \frac{4}{5}$

$\frac{1}{3} = \frac{7}{21}$

$\frac{2}{7} = \frac{6}{21}$

$\frac{4}{5} = \frac{8}{10}$

$\frac{6}{10} = \frac{6}{10}$

Exercise Write in ascending order

1) $\frac{3}{4}, \frac{2}{5}, \frac{3}{10}, \frac{4}{5}, \frac{1}{3}$

$\frac{3}{10}, \frac{1}{3}, \frac{2}{5}, \frac{3}{4}, \frac{4}{5}$

$\frac{3}{10} = \frac{9}{30}$

$\frac{1}{3} = \frac{10}{30}$

$\frac{2}{5} = \frac{12}{30}$

$\frac{3}{4} = \frac{15}{20}$

$\frac{4}{5} = \frac{16}{20}$

2) $\frac{6}{7}, \frac{5}{8}, \frac{3}{4}, \frac{7}{9}, \frac{4}{5}$

$\frac{5}{8}, \frac{3}{4}, \frac{7}{9}, \frac{4}{5}, \frac{6}{7}$

$\frac{7}{9} = \frac{35}{45}$

$\frac{4}{5} = \frac{36}{45}$

$\frac{7}{9} = \frac{28}{36}$

$\frac{3}{4} = \frac{27}{36}$

Indices

Ex1 $4^2 \times 8^3 = 2^x$

$= (2^2)^2 \times (2^3)^3 = 2^x$

$= 2^4 \times 2^9 = 2^x$

$= 2^{13} = 2^x$

$x = 13$

Ex2 $5^x = \frac{1}{625}$

$5^x = \frac{1}{5^4}$

$5^x = 5^{-4}$

$x = -4$

Exercise

1) $2^{x+1} = 4^3$ Find x

$2^{x+1} = (2^2)^3$

$2^{x+1} = 2^6$

$x + 1 = 6$

$x = 5$

2) $5^2 \times 5^x = \frac{1}{25}$

$5^{2+x} = 5^{-2}$

$2 + x = -2$

$x = -2 - 2$

$x = -4$