ST. LAWRENCE HIGH SCHOOL

A JESUIT CHRISTIAN MINORITY INSTITUTION

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CLASS – IV TERM – SECOND SUBJECT- ARITHMETIC ANSWER WORKSHEET – 10 TOPIC – FRACTIONS DATE – 14.05.2020

1. Reduce the following fractions into their lowest forms.

a) $\frac{6}{24}$

H. C. F. of 6 and 24 is 6

$\frac{6}{24} = \frac{6 \div 6}{24 \div 6} = \frac{1}{4}$

Hence, $\frac{1}{4}$ is the lowest form of $\frac{6}{24}$

b) $\frac{16}{32}$

H. C. F. of 16 and 32 is 16

$\frac{16}{32} = \frac{16 \div 16}{32 \div 16} = \frac{1}{2}$

Hence, $\frac{1}{2}$ is the lowest form of $\frac{16}{32}$

c) $\frac{44}{99}$

H. C. F. of 44 and 99 is 11

$\frac{44}{99} = \frac{44 \div 11}{99 \div 11} = \frac{4}{9}$

Hence, $\frac{4}{9}$ is the lowest form of $\frac{44}{99}$

d) $\frac{12}{36}$

H. C. F. of 12 and 36 is 12

$\frac{12}{36} = \frac{12 \div 12}{36 \div 12} = \frac{1}{3}$

Hence, $\frac{1}{3}$ is the lowest form of $\frac{12}{36}$

2. Add and reduce to the lowest forms.

a) $\frac{3}{9} + \frac{1}{2}$

$= \frac{3 \text{ x } 2}{9 \text{ x } 2} + \frac{1 \text{ x } 9}{2 \text{ x } 9}$

$= \frac{6}{18} + \frac{9}{18}$

$= \frac{6+9}{18}$

$= \frac{15}{18}$

H. C. F. of 15 and 18 is 3

$\frac{15}{18} = \frac{15 \div 3}{18 \div 3} = \frac{5}{6}$

Hence, $\mathbf{\frac{5}{6}}$ is the lowest form of $\frac{15}{18}$

b) $\frac{2}{7} + \frac{6}{10}$

$= \frac{2 \times 10}{7 \times 10} + \frac{6 \times 7}{10 \times 7}$

$= \frac{20}{70} + \frac{42}{70}$

$= \frac{20 + 42}{70}$

$= \frac{62}{70}$

H. C. F. of 62 and 70 is 2

$\frac{62}{70} = \frac{62 \div 2}{70 \div 2} = \frac{31}{35}$

Hence, $\mathbf{\frac{31}{35}}$ is the lowest form of $\frac{62}{70}$

c) $\frac{2}{12} + \frac{5}{8}$

$= \frac{2 \times 8}{12 \times 8} + \frac{5 \times 12}{8 \times 12}$

$= \frac{16}{96} + \frac{60}{96}$

$= \frac{16 + 60}{96}$

$= \frac{76}{96}$

H. C. F. of 76 and 96 is 4

$\frac{76}{96} = \frac{76 \div 4}{96 \div 4} = \frac{19}{24}$

Hence, $\mathbf{\frac{19}{24}}$ is the lowest form of $\frac{76}{96}$

d) $\frac{1}{3} + \frac{3}{12}$

$= \frac{1 \times 12}{3 \times 12} + \frac{3 \times 3}{12 \times 3}$

$= \frac{12}{36} + \frac{9}{36}$

$= \frac{12 + 9}{36}$

$= \frac{21}{36}$

H. C. F. of 21 and 36 is 3

$\frac{21}{36} = \frac{21 \div 3}{36 \div 3} = \frac{7}{12}$

Hence, $\mathbf{\frac{7}{12}}$ is the lowest form of $\frac{21}{36}$

3. Subtract and reduce to the lowest forms.

a) $\frac{2}{9} - \frac{1}{6}$

$= \frac{2 \times 6}{9 \times 6} - \frac{1 \times 9}{6 \times 9}$

$= \frac{12}{54} - \frac{9}{54}$

$= \frac{12 - 9}{54}$

$= \frac{3}{54}$

H. C. F. of 3 and 54 is 3

$\frac{3}{54} = \frac{3 \div 3}{54 \div 3} = \frac{1}{18}$

Hence, $\mathbf{\frac{1}{18}}$ is the lowest form of $\frac{3}{54}$

b) $\frac{5}{7} - \frac{2}{4}$

$= \frac{5 \times 4}{7 \times 4} - \frac{2 \times 7}{4 \times 7}$

$= \frac{20}{28} - \frac{14}{28}$

$= \frac{20 - 14}{28}$

$= \frac{6}{28}$

H. C. F. of 6 and 28 is 2

$\frac{6}{28} = \frac{6 \div 2}{28 \div 2} = \frac{3}{14}$

Hence, $\mathbf{\frac{3}{14}}$ is the lowest form of $\frac{6}{28}$

c) $\frac{3}{4} - \frac{2}{6}$

$= \frac{3 \times 6}{4 \times 6} - \frac{2 \times 4}{6 \times 4}$

$= \frac{18}{24} - \frac{8}{24}$

$= \frac{18 - 8}{24}$

$= \frac{10}{24}$

H. C. F. of 10 and 24 is 2

$\frac{10}{24} = \frac{10 \div 2}{24 \div 2} = \frac{5}{12}$

Hence, $\mathbf{\frac{5}{12}}$ is the lowest form of $\frac{10}{24}$

d) $\frac{9}{16} - \frac{1}{4}$

$= \frac{9 \times 4}{16 \times 4} - \frac{1 \times 16}{4 \times 16}$

$= \frac{36}{64} - \frac{16}{64}$

$= \frac{36 - 16}{64}$

$= \frac{20}{64}$

H. C. F. of 20 and 64 is 4

$\frac{20}{64} = \frac{20 \div 4}{64 \div 4} = \frac{5}{16}$

Hence, $\mathbf{\frac{5}{16}}$ is the lowest form of $\frac{20}{64}$

4. Solve:-

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

$= \frac{4 \times 3 + 1}{4} + \frac{3 \times 2 + 2}{3}$

$= \frac{13}{4} + \frac{8}{3}$

$= \frac{13 \times 3}{4 \times 3} + \frac{8 \times 4}{3 \times 4}$

$= \frac{39}{12} + \frac{32}{12}$

$= \frac{39 + 32}{12}$

$= \frac{71}{12} = 5\frac{11}{12}$

Ans. $\mathbf{5\frac{11}{12}}$

b) $4\frac{3}{5} + 6\frac{1}{3}$

$= \frac{5 \times 4+3}{5} + \frac{3 \times 6+1}{3}$

$= \frac{23}{5} + \frac{19}{3}$

$= \frac{23 \times 3}{5 \times 3} + \frac{19 \times 5}{3 \times 5}$

$= \frac{69}{15} + \frac{95}{15}$

$= \frac{69+95}{15}$

$= \frac{164}{15}$

$= 10\frac{14}{15}$

Ans. $\mathbf{10\frac{14}{15}}$

c) $7\frac{1}{2} + 1\frac{5}{6}$

$= \frac{2 \times 7+1}{2} + \frac{6 \times 1+5}{6}$

$= \frac{15}{2} + \frac{11}{6}$

$= \frac{15 \times 6}{2 \times 6} + \frac{11 \times 2}{6 \times 2}$

$= \frac{90}{12} + \frac{22}{12}$

$= \frac{90+22}{12}$

$= \frac{112}{12}$

$= 9\frac{4}{12}$

Ans. $\mathbf{9\frac{4}{12}}$

d) $5\frac{2}{9} + 2\frac{1}{2}$

$= \frac{9 \times 5+2}{9} + \frac{2 \times 2+1}{2}$

$= \frac{47}{9} + \frac{5}{2}$

$= \frac{47 \times 2}{9 \times 2} + \frac{5 \times 9}{2 \times 9}$

$= \frac{94}{18} + \frac{45}{18}$

$= \frac{94+45}{18}$

$= \frac{139}{18} = 7\frac{13}{18}$

Ans. $\mathbf{7\frac{13}{18}}$

5. Add each pair of fractions and reduce to the lowest form if necessary.

a) $\frac{1}{6} + \frac{3}{6} = \mathbf{\frac{4}{6}} = \mathbf{\frac{2}{3}}$

b) $\frac{1}{3} + \frac{1}{3} = \mathbf{\frac{2}{3}}$

c) $\frac{9}{15} + \frac{3}{15} = \mathbf{\frac{12}{15}} = \mathbf{\frac{4}{5}}$

d) $\frac{1}{4} + \frac{2}{4} = \mathbf{\frac{3}{4}}$