المدرسة الوطنية الأرثوذكسية الشمّيساني

The National Orthodox School Shmaisani

Worksheet 1 |

Lower Secondary Stage (6-8)

1st Semester | 2023-2024

Subject: Math

Chapter: 1

Objectives:

- To revise adding and subtracting fractions
- To revise multiplying and dividing fractions

Q1: Work out the answers to these without using a calculator. Give your answer in simplest form.

a) $\frac{2\times4}{2\times1} - \frac{3}{2} =$

$\frac{8}{2} - \frac{3}{2} = \frac{5}{2} = 2\frac{1}{2}$

b) $11 + 7\frac{1}{4} =$

$11 + 7 = 18$

$18 + \frac{1}{4} = 18\frac{1}{4}$

c) $5\frac{1}{4} + 3\frac{1}{16} + 4\frac{3}{8} =$

$5 + 3 + 4 = 12$

$\frac{4\times1}{4\times4} + \frac{1}{16} + \frac{3^{\times2}}{8_{\times2}}$

$\frac{4}{16} + \frac{1}{16} + \frac{6}{16} = \frac{11}{16}$

$12 + \frac{11}{16} = 12\frac{11}{16}$

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

$\frac{2\text{cx}4}{2\text{cx}3} + \frac{12^{\times12}}{5\times12} - \frac{5}{4\times15}$

$\frac{80}{60} + \frac{144}{60} - \frac{75}{60} = \frac{149}{60}$

$= 2\frac{29}{60}$

e) $\frac{3}{7} + \frac{2}{3} \times \frac{14}{8} =$

(1)

$\frac{2}{3} \times \frac{14}{8} = \frac{7}{6}$

$\frac{6\times3}{6\times7} + \frac{7\times7}{6\times7} = \frac{18}{42} + \frac{49}{42} = \frac{67}{42}$

$1\frac{25}{42}$

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

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

$3\frac{1}{2} - 3 = \frac{1}{2}$

g) $1\frac{3}{4} \div 2\frac{1}{3} =$

$\frac{7}{4} \div \frac{7}{3}$

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

h) $\frac{5}{8} \div 2 =$

$\frac{5}{8} \times \frac{1}{2} = \frac{5}{16}$

i) $7\frac{7}{8} \div 5\frac{1}{12} =$

$\frac{63}{8} \div \frac{61}{12}$

$\frac{63}{8_2} \times \frac{12^3}{61} = \frac{189}{122} = 1\frac{67}{122}$

j) $\left(2\frac{1}{3} - 1\frac{2}{5}\right) \div 1\frac{1}{3} =$

$5 \times \frac{7}{3} - \frac{7 \times 3}{5 \times 3}$

$\frac{35}{15} - \frac{21}{15} = \frac{14}{15}$

$\frac{14}{15} \div 1\frac{1}{3} = \frac{14}{15} \div \frac{4}{3}$

$\frac{7}{14} \times \frac{2}{4_2} = \frac{7}{10}$

k) $2\frac{1}{3} - 1\frac{2}{5} \div 1\frac{1}{3} =$

$\frac{7}{5} \div \frac{4}{3}$

$\frac{7}{5} \times \frac{3}{4} = \frac{21}{20}$

$2\frac{1}{3} - \frac{21}{20}$

$\frac{7}{3} - \frac{21 \times 3}{20 \times 3} = \frac{140}{60} - \frac{63}{60}$

$\frac{77}{60} = 1\frac{17}{60}$

l) $3\frac{1}{3} \div 7\frac{1}{2} + \frac{2}{27} =$

$\frac{10}{3_2} \div \frac{15}{2}$

$\frac{10}{3} \times \frac{2}{15_3} = \frac{4}{9}$

$3 \times \frac{4}{9} + \frac{2}{27}$

$\frac{12}{27} + \frac{2}{27} = \frac{14}{27}$

Q2) Chloe, Daisy and Emily share some money.
Chloe receives $\frac{5}{8}$ of the money.
Daisy receives $\frac{1}{6}$ of the money.
Show that Emily receives $\frac{5}{24}$ of the money.

$\frac{3 \times 5}{3 \times 8} + \frac{1 \times 4}{6 \times 4}$

$\frac{15}{24} + \frac{4}{24} = \frac{19}{24}$

$1 - \frac{19}{24} = \frac{24}{24} - \frac{19}{24} = \frac{5}{24}$.

Q3) $\frac{7}{12}$ of the passengers on a coach are boys.
The rest of the passengers are girls.
35 of the passengers are boys.
How many of the passengers are girls?

$\frac{7}{12} = \frac{35}{x}$ (×5)

$x = 12 \times 5 = 60$ passengers.

$60 - 35 = 25$ girls.

Q4) $\frac{3}{4}$ of Joshua's books are paperbacks.
$\frac{4}{9}$ of his paperback books are science fiction.
What fraction of his books are science fiction paperbacks?
Give your fraction in its simplest form.

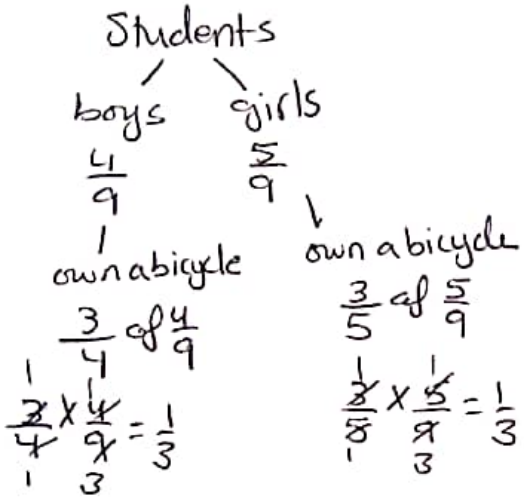
$\frac{1}{\cancel{4}_{3}} \times \frac{\cancel{2}^{1}}{\cancel{4}_{1}} = \frac{1}{3}$ are science fiction paperbacks.

Q5) $\frac{5}{9}$ of the students in a school are girls.

$\frac{3}{5}$ of these girls own a bicycle.

$\frac{3}{4}$ of the boys in the school own a bicycle.

What fraction of the students in the school own a bicycle?
Give your fraction in its simplest form.



$\frac{1}{3} + \frac{1}{3} = \frac{2}{3}$ students own a bicycle in the school.

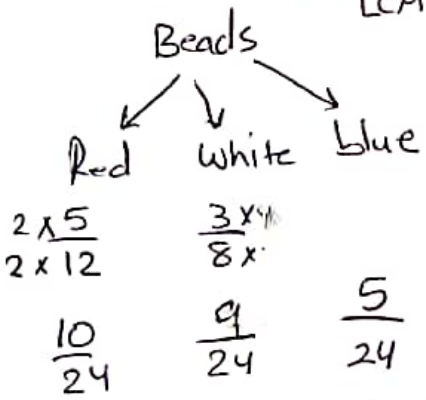
Q6) A bag contains only red beads, white beads and blue beads.

$\frac{5}{12}$ of the beads are red.

$\frac{3}{8}$ of the beads are white.

Work out the smallest possible number of beads that the bag could contain.

LCM.



The smallest possible number of beads is $\boxed{24}$.