Worksheet

1. Calculate the following

a) $\frac{8}{9} \div \frac{3}{2} = \frac{8}{9} \times \frac{2}{3} = \frac{8 \times 2}{9 \times 3} = \frac{16}{27}$

b) $\overset{\times 3}{\underset{\times 3}{\frac{2}{5}}} + \overset{\times 5}{\underset{\times 5}{\frac{1}{3}}} = \frac{6}{15} + \frac{5}{15} = \frac{11}{15}$

c) $9.2 \times 6.4 = 58 \cdot 88$

$$\begin{array}{r} 92 \\ \times 64 \\ \hline 368 \\ 5520 \\ \hline 5888 \end{array}$$

d) $\frac{5}{13} \times \frac{3}{4} = \frac{5 \times 3}{13 \times 4} = \frac{15}{52}$

e) $110.34 - 22.2 = 88 \cdot 14$

$$\begin{array}{r} 110 \cdot 34 \\ - 022 \cdot 20 \\ \hline 088 \cdot 14 \end{array}$$

f) $93.6 \div 2.4 = \frac{93 \cdot 6^{\times 10}}{2 \cdot 4_{\times 10}} = \frac{936}{24} = 39$

$$\begin{array}{r} 039 \\ 24\overline{)993^{21}6} \end{array}$$

g) $\overset{\times 2}{\underset{\times 2}{\frac{11}{15}}} - \overset{\times 3}{\underset{\times 3}{\frac{3}{10}}} = \frac{22}{30} - \frac{9}{30} = \frac{13}{30}$

h) $\frac{7}{11} \div \frac{5}{6} = \frac{7}{11} \times \frac{6}{5} = \frac{7 \times 6}{11 \times 5} = \frac{42}{55}$

i) $82.301 + 29.08 = 111 \cdot 381$

$$\begin{array}{r} 82.301 \\ + 29.080 \\ \hline 111.381 \end{array}$$

j) $\frac{1}{2} \times \frac{4}{37} = \frac{1 \times 4}{2 \times 37} = \frac{4}{74} = \frac{2}{37}$

Worksheet

2. Calculate the following

a) $\frac{3}{4} \times 1\frac{1}{2} = \frac{3}{4} \times \frac{3}{2} = \frac{3 \times 3}{4 \times 2} = \frac{9}{8} = 1\frac{1}{8}$

b) $2\frac{2}{9} + \frac{5}{6} = \frac{20}{9} + \frac{5}{6} = \frac{40}{18} + \frac{15}{18} = \frac{55}{18} = 3\frac{1}{18}$

(with $\times 2$ annotations on the $\frac{20}{9}$ and $\times 3$ on the $\frac{5}{6}$)

c) $2\frac{6}{7} \times 3\frac{1}{5} = \frac{20}{7} \times \frac{16}{5} = \frac{20 \times 16}{7 \times 5} = \frac{320}{35} = \frac{64}{7} = 9\frac{1}{7}$

d) $3\frac{2}{3} - 1\frac{11}{20} = \frac{11}{3} - \frac{31}{20} = \frac{220}{60} - \frac{93}{60} = \frac{127}{60} = 2\frac{7}{60}$

(with $\times 20$ annotation on $\frac{11}{3}$ and $\times 3$ on $\frac{31}{20}$)

e) $2\frac{1}{3} \div 5\frac{1}{2} = \frac{7}{3} \div \frac{11}{2} = \frac{7}{3} \times \frac{2}{11} = \frac{14}{33}$

3. The following table gives the prices of fruit in a shop. Calculate the cost of 1.1kg of apples, 2.4kg of bananas and 3.2kg of oranges.

> Apples: £0.80 per kilogram
> Bananas: £1.10 per kilogram
> Oranges: £1.32 per kilogram

1.1 Kg of apples = $1.\tilde{1} \times 0.\tilde{8} =$ £0.88

2.4 Kg of bananas = $2.\tilde{4} \times 1.\tilde{1} =$ £2.64

3.2 Kg of oranges = $3.\tilde{2} \times 1.32 =$ £4.22

Total cost = £7.74

```
  4·22
  2·64
  0·88
 ─────
  7·74
```

```
    11
  ×  8
 ─────
    88

    24
  × 11
 ─────
    24
   240
 ─────
   264
```

```
   132
  ×  32
 ─────
   264
  3960
 ─────
  4224
```
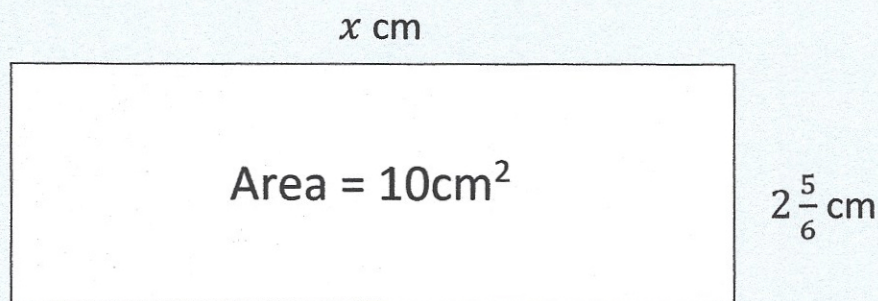
Worksheet

4. In a school, students must study either French, Spanish or Mandarin. If $\frac{3}{20}$ study Mandarin and $\frac{5}{8}$ study French, what fraction of the pupils' study Spanish?

Total Students = 100% = 1

$\therefore$ Total Spanish $= 1 - \frac{3}{20} - \frac{5}{8} = \frac{1}{1} - \frac{3}{20} - \frac{5}{8}$

$= \frac{40}{40} - \frac{6}{40} - \frac{25}{40} = \frac{9}{40}$

5. Shown is a rectangle. Find the value of x.

x cm

Area = 10cm²

$2\frac{5}{6}$ cm

Area = length × width

$10 = x \times 2\frac{5}{6}$

$\therefore x = 10 \div 2\frac{5}{6} = \frac{10}{1} \div \frac{17}{6} = \frac{10}{1} \times \frac{6}{17} = \frac{60}{17}$

$= 3\frac{9}{17}$