

# SHARP

## Worksheet 4 Memorandum: Decimal Fractions

### Grade 9 Mathematics

1.

| Decimal                | Fraction                            | Percentage |
|------------------------|-------------------------------------|------------|
| 0.336                  | $\frac{336}{1000} = \frac{42}{125}$ | 33.6%      |
| $\frac{30}{100} = 0.3$ | $\frac{15}{50}$                     | 30%        |
| 0.54                   | $\frac{54}{100} = \frac{27}{50}$    | 54%        |
| 0.072                  | $\frac{72}{1000} = \frac{9}{125}$   | 7.2%       |
| 0.036                  | $\frac{9}{250} = \frac{36}{1000}$   | 3.6%       |
| 0.85                   | $\frac{85}{100} = \frac{17}{20}$    | 85%        |
| 0.25                   | $\frac{25}{100} = \frac{1}{4}$      | 25%        |
| 0.3333                 | $\frac{1}{3}$                       | 33.33%     |
| 0.04                   | $\frac{4}{100} = \frac{1}{25}$      | 4%         |

2. a)  $(0.7)^2 - \sqrt{0.64}$

$$= \left(\frac{7}{10}\right)^2 - \sqrt{\frac{64}{100}}$$

$$= \frac{49}{100} - \frac{8}{10}$$

$$= 0.49 - 0.8$$

$$= -0.31$$

b)  $3.16 + (1.25 \div 0.5) - 0.212$

$$= 3.16 + (2.5) - 0.212$$

$$= 5.448$$

d)  $23.604 \div 0.21 + 1.58$

$$= 112.4 + 1.58$$

$$= 113.98$$



$$\begin{aligned}
 \text{c)} \quad & \frac{1}{2} + 11.115 - 14\% \text{ of } 12 \\
 & = 0.5 + 11.115 - 0.14 \times 12 \\
 & = 11.615 - 1.68 \\
 & = 9.935
 \end{aligned}$$

$$\begin{aligned}
 \text{f)} \quad & (19.588 - 13.38) \times 7.3 \\
 & = 6.208 \times 7.3 \\
 & = 45.3184
 \end{aligned}$$

$$\begin{aligned}
 \text{h)} \quad & 43.758 - 41.369 + 1.2 \times 1.34 \\
 & = 2.389 + 1.608 \\
 & = 3.997
 \end{aligned}$$

$$\begin{aligned}
 \text{j)} \quad & \sqrt[3]{15.625} - 28.305 \times 11.02 \\
 & = \sqrt[3]{\frac{15625}{1000}} - 311.9211 \\
 & = \frac{25}{10} - 311.9211 \\
 & = 2.5 - 311.9211 \\
 & = -309.4211
 \end{aligned}$$

$$\begin{aligned}
 \text{m)} \quad & 9.45 \times 0.03 \\
 & = 0.2835
 \end{aligned}$$

$$\begin{aligned}
 \text{n)} \quad & 100 \div 0.002 \\
 & = 50\,000
 \end{aligned}$$

$$\begin{aligned}
 \text{e)} \quad & \sqrt[3]{0.008} - 2.19 \times 0.575 \\
 & = \sqrt[3]{\frac{8}{1000}} - 1.25925 \\
 & = \frac{2}{10} - 1.25925 \\
 & = 0.2 - 1.25925 \\
 & = -1.05925
 \end{aligned}$$

$$\begin{aligned}
 \text{g)} \quad & 27.96 \times 31.92 - 7.176 \\
 & = 892.4832 - 7.176 \\
 & = 885.3072
 \end{aligned}$$

$$\begin{aligned}
 \text{i)} \quad & \sqrt{0.64} - \sqrt[3]{0.064} \\
 & = \sqrt{\frac{64}{100}} - \sqrt[3]{\frac{64}{1000}} \\
 & = \frac{8}{10} - \frac{4}{10} \\
 & = 0.4
 \end{aligned}$$

$$\begin{aligned}
 \text{k)} \quad & 12.84 \div 5 \\
 & = 2.568
 \end{aligned}$$

$$\begin{aligned}
 \text{l)} \quad & (0.2)^2 - (0.2)^3 \\
 & = \left(\frac{2}{10}\right)^2 - \left(\frac{2}{10}\right)^3 \\
 & = \frac{4}{100} - \frac{8}{1000} \\
 & = 0.04 - 0.008 \\
 & = 0.032
 \end{aligned}$$



$$\begin{aligned} \text{o)} \quad & 24.966 + 3.456 - 54.489 \\ & = -26.067 \end{aligned}$$

$$\begin{aligned} \text{p)} \quad & 83.886 \div 0.6 \\ & = 139.81 \end{aligned}$$

$$\begin{aligned} \text{q)} \quad & 18.169 \times 1.23 \\ & = 22.34787 \end{aligned}$$

$$\begin{aligned} \text{r)} \quad & \sqrt{1.5625} + 1.5^2 \\ & = \sqrt{\frac{15625}{10000}} + \left(\frac{15}{10}\right)^2 \\ & = \frac{125}{100} + \frac{225}{100} \\ & = 1.25 + 2.25 \\ & = 3\frac{1}{2} \end{aligned}$$

3.

|           | 3 decimal places | 2 decimal places | 1 decimal place | Whole number |
|-----------|------------------|------------------|-----------------|--------------|
| 1.65312   | 1.653            | 1.65             | 1.7             | 2            |
| 9.9547    | 9.955            | 9.95             | 10.0            | 10           |
| 49.661304 | 49.661           | 49.66            | 49.7            | 50           |
| 3.15195   | 3.152            | 3.15             | 3.2             | 3            |
| 1.4273    | 1.427            | 1.43             | 1.4             | 1            |
| 5.7698    | 5.770            | 5.77             | 5.8             | 6            |
| 9.9999    | 10.000           | 10.00            | 10.0            | 10           |
| 0.1829    | 0.183            | 0.18             | 0.2             | 0            |
| 3.5467    | 3.547            | 3.55             | 3.5             | 4            |
| 2.3275    | 2.328            | 2.33             | 2.3             | 2            |
| 0.0218    | 0.022            | 0.02             | 0.0             | 0            |
| 2.8948    | 2.895            | 2.89             | 2.9             | 3            |
| 5.92284   | 5.923            | 5.92             | 5.9             | 6            |
| 3.26913   | 3.269            | 3.27             | 3.3             | 3            |
| 33.2097   | 33.210           | 33.21            | 33.2            | 33           |

$$\begin{aligned} 4. \quad \text{a)} \quad & 2.25 \times 0.3 \\ & = 2.25 \times 3 \div 10 \\ & = 6.75 \div 10 \\ & = 0.675 \text{ l} \end{aligned}$$

Kirsten drinks 0.675 l of the coke.



b)  $2.25 \times 0.45$   
 $= 2.25 \times 45 \div 100$   
 $= 101.25 \div 100$   
 $= 1.0125 \text{ l}$   $\therefore$  Ed drinks 1.0125 l of coke

c)  $2.25 - 0.675 - 1.0125$   
 $= 0.5625 \text{ l}$   $\therefore$  There are 0.5625 l of coke left  
in the bottle.



5. a)  $0.3 + (3 \times 2.15) + 0.705 + 0.6$   
 $= 1.605 + 6.45$   
 $= 8.055 \text{ kg}$   $\therefore$  Lebo's shopping weighs 8.055 kg altogether.

b)  $0.705 \div 12$   
 $= 705 \div 12 \div 1000$   
 $= 58.75 \div 1000$   
 $= 0.05875 \text{ kg}$   $\therefore$  One slice of bread weighs 0.05875kg (or 58.75g)

c)  $0.6 \text{ kg} \div 0.005$   
 $= 600 \text{ g} \div 5 \text{ g}$   
 $= 120$   $\therefore$  Lebo should find 120 cherries in her box.

d)  $25.64 \div 8.055$   
 $= 3.183116077$   
 $\therefore$  Lebo's shopping cost R3.18 / kg.

(Remember that answers for this question need to be rounded off).

