

NO CALCULATOR MAY BE USED IN THIS EXERCISE!

(1) Write the additive inverse of each of the following:

(a) 0,8

$\hookrightarrow -0,8$

$+0,8 - 0,8 = 0$

(b) -44

$\hookrightarrow +44$

$-44 + 44 = 0$

(c) $1\frac{1}{2}$

$\hookrightarrow -1\frac{1}{2}$

$1\frac{1}{2} - 1\frac{1}{2} = 0$

(2) Calculate the value of the following if $A = \frac{3}{5}$; $B = -0,7$ and $C = 0,125$:

(a) A^2C

$= \left(\frac{3}{5}\right)^2 (0,125)$

$= \frac{9}{25} \times \frac{125}{1000}$

$= \frac{9 \times 5}{1000} = \frac{9}{200}$

$= \frac{9}{200}$

(b) $B - C$

$= (-0,7) - 0,125$

$= -0,7 - 0,125$

$= -0,825$

(c) $\sqrt[3]{C}$

$= \sqrt[3]{0,125}$

$= \sqrt[3]{(0,5)^3}$

$= 0,5$

$0,700$

$+ 0,125$

$0,825$

(3) There are four balls in a bag. On each ball a number is written:

Red $\rightarrow \frac{7}{6}$

Blue $\rightarrow \frac{5}{8}$

Green $\rightarrow \frac{1}{2}$

White $\rightarrow \frac{7}{16}$

- (a) Which ball has the lowest value?
 (b) Calculate the sum of the values on the blue and the white balls.
 (c) Which ball is not a proper fraction?

$$\begin{aligned} \text{Red} : \frac{7}{6} &= \frac{7}{6} \times \frac{8}{8} = \frac{56}{48} \\ \text{Blue} : \frac{5}{8} &= \frac{5}{8} \times \frac{6}{6} = \frac{30}{48} \\ \text{Green} : \frac{1}{2} &= \frac{1}{2} \times \frac{24}{24} = \frac{24}{48} \\ \text{White} : \frac{7}{16} &= \frac{7}{16} \times \frac{3}{3} = \frac{21}{48} \end{aligned}$$

(a) $\frac{7}{16}$ is the smallest

$$\begin{aligned} (b) \quad & \frac{5}{8} + \frac{7}{16} \\ &= \frac{5}{8} \times \frac{2}{2} + \frac{7}{16} \\ &= \frac{10}{16} + \frac{7}{16} \\ &= \frac{17}{16} \\ &= 1 \frac{1}{16} \end{aligned}$$

(c) Red $\rightarrow \frac{7}{6}$

(4) Use a $\checkmark$ to indicate the applicable column(s) for each number:

		N	N ₀	Z	Q	R			N	N ₀	Z	Q	R
(a)	3,412 ...					$\checkmark$	(d)	-6			$\checkmark$	$\checkmark$	$\checkmark$
(b)	113	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$	(e)	$\begin{smallmatrix} (-2)^2 \\ = 4 \end{smallmatrix}$	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$
(c)	$\frac{3}{7}$				$\checkmark$	$\checkmark$	(f)	$\begin{smallmatrix} \sqrt{81} \\ = 9 \end{smallmatrix}$	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$

(5) Calculate: $\frac{\frac{3}{4} + \frac{3}{6}}{1\frac{1}{8} - 2\frac{1}{4}}$

$$= \left(\frac{3}{4} + \frac{3}{6} \right) \div \left(1\frac{1}{8} - 2\frac{1}{4} \right)$$

$$= \left(\frac{3}{4} \times \frac{3}{3} + \frac{3}{6} \times \frac{2}{2} \right) \div \left(\frac{9}{8} - \frac{9}{4} \right)$$

$$= \left(\frac{9}{12} + \frac{6}{12} \right) \div \left(\frac{9}{8} - \frac{9}{4} \times \frac{2}{2} \right)$$

$$= \left(\frac{15}{12} \right) \div \left(\frac{9}{8} - \frac{18}{8} \right)$$

$$= \frac{15}{12} \div -\frac{9}{8}$$

$$= \frac{\cancel{15}^5}{\cancel{12}_3} \times \frac{8^2}{\cancel{9}_3}$$

$$= \frac{5 \times 2}{3 \times -3}$$

$$= \frac{10}{-9}$$

$$= -1\frac{1}{9}$$