

ES9 - N5 Applications of Maths (Numeracy)

Ratio

Worked Solutions Courtesy of Mr R. Milton

① $16 \div 2 = 8$

$$\begin{array}{r}
 \times 8 \int 2 \\
 16 \\
 \hline
 \end{array}
 \quad
 \begin{array}{r}
 5 \\
 40 \int \times 8 \\
 \hline
 \end{array}$$

TOTAL = 16 + 40 = 56 ✓

② $112 \div 7 = 16$

$$\begin{array}{r}
 \times 16 \int 5 \\
 80 \checkmark \\
 \hline
 \end{array}
 \quad
 \begin{array}{r}
 7 \\
 112 \int \times 16 \\
 \hline
 \end{array}$$

TOTAL = 80 + 112 = 192

③ USING ALGEBRA

$$6x + x = 203$$

$$7x = 203$$

$$x = \frac{203}{7} = 29$$

$$\begin{array}{r}
 6 \\
 6x \\
 6 \times 29 \checkmark \\
 174 \checkmark \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 1 \\
 x \\
 29 \checkmark \\
 29 \checkmark \\
 \hline
 \end{array}$$

$$\begin{array}{l}
 \text{TOTAL} = 174 + 29 \\
 = \underline{203} \checkmark
 \end{array}$$

$$\textcircled{4} \quad \frac{81}{3} = 27$$

$$\begin{array}{ccc} 2 & 1 & 3 \\ \underline{54} & \underline{27} & \underline{81} \end{array} \begin{array}{l} \downarrow \\ \downarrow \\ \downarrow \end{array} \begin{array}{l} \times 27 \\ \times 27 \\ \times 27 \end{array}$$

✓ ✓

$$\begin{aligned} \text{TOTAL} &= 54 + 27 + 81 \\ &= \underline{162} \checkmark \end{aligned}$$

$$\textcircled{5} \quad \frac{30}{2} = 15$$

$$\begin{array}{ccc} 4 & 2 & 9 \\ \underline{60} & \underline{30} & \underline{135} \end{array} \begin{array}{l} \downarrow \times 15 \\ \downarrow \times 15 \\ \downarrow \times 15 \end{array}$$

$$\begin{aligned} \text{TOTAL} &= 60 + 30 + 135 \\ &= \underline{225} \checkmark \end{aligned}$$

$$(6) \quad \frac{54}{9} = 6$$

$$\begin{array}{ccc} 9 & 5 & 2 \\ \times 6 \searrow & \searrow & \searrow \\ 54 & 30 & 12 \end{array}$$

$$\underline{T = 54 + 30 + 12 = 96} \checkmark$$

(7) USING ALGEBRA

$$x + 3x + 4x = 184$$

$$8x = 184$$

$$x = 23$$

1	3	4
x	$3x$	$4x$
23	3×23	4×23
<u>23</u>	<u>69</u>	<u>92</u> \checkmark

⑧

5	11	4	$\frac{132}{11} = 12$
$\downarrow \times 12$	$\downarrow \times 12$	$\downarrow \times 12$	
60 ✓	132 ✓	48 ✓	

TOTAL = $60 + 132 + 48$
 $= \underline{240} \checkmark$

⑨

13	7	10	$\frac{56}{7} = 8$
$\downarrow \times 8$	$\downarrow \times 8$	$\downarrow \times 8$	
<u>104</u> ✓	<u>56</u> ✓	<u>80</u> ✓	

TOTAL = $104 + 56 + 80 = \underline{240} \checkmark$

⑩ USING ALGEBRA

$$8x + 7x + 5x = 840$$

$$20x = 840$$

$$x = \frac{840}{20} = 42$$

$$8 \times 42$$

$$\underline{336}$$

$$7 \times 42$$

$$\underline{294}$$

$$5 \times 42$$

$$\underline{210}$$

AGD

<u>GB</u>	<u>I</u>	<u>J</u>
13 $\downarrow \times 5$	8 $\downarrow \times 5$	9 $\downarrow \times 5$
65	40	45

$$\begin{aligned} \text{TOTAL} &= 65 + 40 + 45 \\ &= \underline{150} \checkmark \end{aligned}$$