

# 59 December Assessment Revision Solutions

$$1a.) \quad 7:13\text{am} \xrightarrow{47\text{min}} 8\text{am} \xrightarrow{20\text{hrs}} 4\text{am} \xrightarrow{52\text{min}} 4:52\text{am}$$

$$\begin{aligned} \text{TOTAL} &= 20\text{hrs } 99\text{min} \\ &= 21\text{hrs } 39\text{min} \end{aligned}$$

$$b.) \quad 8:41\text{pm} \xrightarrow{19\text{min}} 9\text{pm} \xrightarrow{2\text{hrs}} 11\text{pm} \xrightarrow{57\text{min}} 11:57\text{pm}$$

$$\begin{aligned} \text{TOTAL} &= 2\text{hrs } 76\text{min} \\ &= 3\text{hr } 16\text{min} \end{aligned}$$

$$c.) \quad 0904\text{hs} \xrightarrow{56\text{min}} 1000 \xrightarrow{9\text{hrs}} 1900 \xrightarrow{21\text{min}} 1921\text{hs}$$

$$\begin{aligned} \text{TOTAL} &= 9\text{hrs } 77\text{min} \\ &= 10\text{hrs } 17\text{min} \end{aligned}$$

$$d.) \quad 0625 \xrightarrow{35\text{min}} 0700 \xrightarrow{12\text{hrs}} 1900 \xrightarrow{21\text{min}} 1921\text{hs}$$

$$\text{TOTAL} = 12\text{hrs } 56\text{min}$$

$$2a.) \quad 7 - 9 = -2$$

$$b.) \quad -20 + 4 = -16$$

$$\begin{aligned} c.) \quad 13 + (-12) \\ &= 13 - 12 \\ &= 1 \end{aligned}$$

$$\begin{aligned} d.) \quad -19 + (-2) \\ &= -19 - 2 \\ &= -21 \end{aligned}$$

$$\begin{aligned} e.) \quad 6 - 8 + 12 \\ &= -2 + 12 \\ &= 10 \end{aligned}$$

$$\begin{aligned} f.) \quad 7 + (-10) - 8 \\ &= 7 - 10 - 8 \\ &= -11 \end{aligned}$$

$$3a.) \quad 490$$

$$b.) \quad 390$$

$$c.) \quad 6730$$

$$\begin{aligned} 4a.) \quad 9 - 2p + 5r \\ &= 8 - 2 \times 3 + 5 \times 4 \\ &= 8 - 6 + 20 \\ &= 22 \end{aligned}$$

$$\begin{aligned} b.) \quad (pr)^2 - 4r \\ &= (3 \times 4)^2 - 4 \times 4 \\ &= 12^2 - 4 \times 4 \\ &= 144 - 16 \\ &= 128 \end{aligned}$$

$$\begin{aligned} c.) \quad (r-p)^2 - 2qr \\ &= (4-3)^2 - 2 \times 8 \\ &= (1)^2 - 2 \times 8 \\ &= 1 - 16 \\ &= -15 \end{aligned}$$

$$d.) pr^2 - pqr$$

$$= 3 \times 4^2 - 3 \times 8 \times 4$$

$$= 3 \times 16 - 3 \times 8 \times 4$$

$$= 48 - 96$$

$$= -48$$

$$5a.) \boxed{6e} - \cancel{5r} + \cancel{3} - \cancel{2r} + \boxed{9e} - \cancel{5}$$

$$= 15e - 7r - 2$$

$$b.) \boxed{10} - \cancel{7y} + \boxed{4p} - \cancel{3y} - \boxed{9p} + \boxed{1}$$

$$= 11 - 10y - 5p$$

$$c.) \boxed{3r^2} - \boxed{5r} - \cancel{7} + \boxed{2r^2} - \boxed{7r} - \cancel{1}$$

$$= r^2 - 12r + 8$$

$$d.) \boxed{9w^3} - \boxed{3w^2} + \cancel{w} - \boxed{17w^2} + \boxed{4w^3} - \cancel{5w}$$

$$= 23w^3 - 20w^2 - 4w$$

$$6.) a) f - 2e$$

$$= 4 - 2 \times 2$$

$$= 4 - 4$$

$$= 0$$

$$b) ef - g$$

$$= 2 \times 4 - 5$$

$$= 8 - 5$$

$$= 3$$

$$c) eg^2 - fg$$

$$= 2 \times 5^2 - 4 \times 5$$

$$= 2 \times 25 - 4 \times 5$$

$$= 50 - 20$$

$$= 30$$

$$7a) e - 15 = 30$$

$$e = 45$$

$$b) p + 8 = 7$$

$$p = -1$$

8) a) 900

b) 6400

c) 12700

9 a)  $17 - 2 \times 5$

$= 17 - 10$

$= 7$

b)  $9 \times 4 + 3 \times 6$

$= 36 + 18$

$= 54$

c)  $24 - 7 \times 6$

$= 24 - 42$

$= -18$

## Fractions & Percentages

1a)  $\frac{4}{12} = \frac{1}{3}$

b)  $\frac{25}{35} = \frac{5}{7}$

c)  $\frac{90}{120} = \frac{9}{12} = \frac{3}{4}$

2a)  $3 \frac{1}{5} = \frac{16}{5}$

b)  $6 \frac{7}{8} = \frac{55}{8}$

c)  $4 \frac{7}{9} = \frac{43}{9}$

3a)  $\frac{24}{5} = 4 \frac{4}{5}$

b)  $\frac{37}{4} = 9 \frac{1}{4}$

c)  $\frac{41}{6} = 6 \frac{5}{6}$

4a)  $\frac{5}{7}$  of £6279

$$\begin{array}{r} 897 \\ 7 \overline{) 6279} \end{array}$$

$$\begin{array}{r} 897 \\ \times 5 \\ \hline \pounds 4485 \end{array}$$

b)  $\frac{8}{9}$  of £6786

$$\begin{array}{r} 754 \\ 9 \overline{) 6786} \end{array}$$

$$\begin{array}{r} 754 \\ \times 8 \\ \hline \pounds 6032 \end{array}$$

c)  $\frac{4}{5}$  of £4285

$$\begin{array}{r} 857 \\ 5 \overline{) 4285} \end{array}$$

$$\begin{array}{r} 857 \\ \times 4 \\ \hline \pounds 3428 \end{array}$$

d)  $\frac{3}{8}$  of 2136

$$\begin{array}{r} 267 \\ 8 \overline{) 2136} \end{array}$$

$$\begin{array}{r} 267 \\ \times 3 \\ \hline \pounds 801 \end{array}$$

5)  $\frac{3}{8}$  of £4208

$$= \begin{array}{r} 526 \\ 8 \overline{) 4208} \end{array}$$

$$\begin{array}{r} 526 \\ \times 3 \\ \hline 1578 \end{array}$$

So  $\begin{array}{r} \pounds 4208 \\ - 1578 \\ \hline \end{array}$

£2630 left

$$6. a) 10\% = \frac{10}{100} = \frac{1}{10}$$

$$b) 35\% = \frac{35}{100} = \frac{7}{20}$$

$$c) 64\% = \frac{64}{100} = \frac{32}{50} = \frac{16}{25}$$

$$d) 78\% = \frac{78}{100} = \frac{39}{50}$$

$$7. a) 25\% = \frac{1}{4}$$

$$\frac{1}{4} \text{ of } \pounds 416$$

$$= 416 \div 4$$

$$= \underline{\underline{\pounds 104}}$$

$$b) 75\% = \frac{3}{4}$$

$$\frac{3}{4} \text{ of } 340$$

$$= 340 \div 4$$

$$= \begin{array}{r} 85 \\ \times 3 \\ \hline \pounds 255 \end{array}$$

$$c) 20\% = \frac{1}{5}$$

$$\frac{1}{5} \text{ of } 760$$

$$= 760 \div 5$$

$$= \underline{\underline{\pounds 152}}$$

$$8. a) 75\% \text{ of } 3136$$

$$= \frac{3}{4} \text{ of } 3136$$

$$3136 \div 4 = 784$$

$$3 \times 784 = \underline{\underline{\pounds 2352}}$$

$$b) 25\% \text{ of } \pounds 568$$

$$= \frac{1}{4} \text{ of } \pounds 568$$

$$= 568 \div 4$$

$$= \underline{\underline{\pounds 142}}$$

$$c) 30\% \text{ of } 260$$

$$10\% = \pounds 26$$

$$30\% = \begin{array}{r} \pounds 26 \\ \times 3 \\ \hline \pounds 78 \end{array}$$

$$d) 15\% \text{ of } \pounds 680$$

$$10\% = \pounds 68$$

$$5\% = \pounds 34$$

$$\underline{\underline{\pounds 112}}$$

$$e) 12.5\% \text{ of } \pounds 440$$

$$\left[ \begin{array}{l} 10\% = \pounds 44 \\ 5\% = \pounds 22 \\ 2.5\% = \pounds 11 \end{array} \right]$$

$$\underline{\underline{\pounds 55}}$$

$$f) 22.5\% \text{ of } \pounds 620$$

$$10\% = \pounds 62$$

$$20\% = \pounds 124$$

$$5\% = \pounds 31$$

$$2.5\% = \pounds 15.50$$

$$\underline{\underline{\pounds 139.50}}$$

$$9. a) \frac{1}{4} = \frac{25}{100}$$

$$= 25\%$$

$$b) \frac{2}{5} = \frac{40}{100}$$

$$= 40\%$$

$$c) \frac{24}{160} = \frac{3}{20} = \frac{15}{100}$$

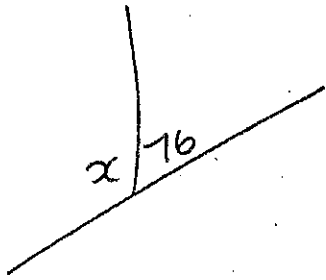
$$= 15\%$$

## Angles

1.)  $180^\circ$

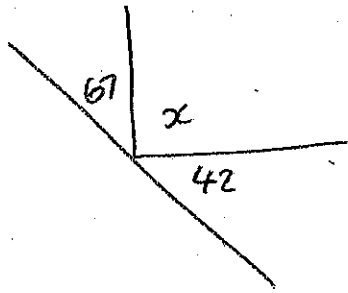
2.)  $90^\circ$

3.a)



$$\begin{aligned}x &= 180 - 76 \\ &= \underline{\underline{104^\circ}}\end{aligned}$$

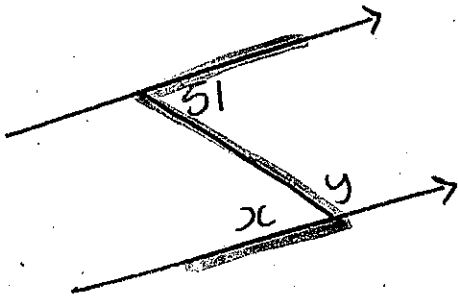
b.)



$$\begin{array}{r}67 \\ + 42 \\ \hline 109\end{array}$$

$$\begin{aligned}x &= 180 \\ &\quad - 109 \\ \hline &\quad \underline{\underline{71^\circ}}\end{aligned}$$

4.)



$$x = \underline{\underline{51}}$$

$$\begin{aligned}y &= 180 - 51 \\ &= \underline{\underline{129^\circ}}\end{aligned}$$

## Decimals

1a.)  $3.87 \times 1000$   
 $= 3870$

b.)  $3856.87 \times 10$   
 $= 38568.7$

c.)  $485.28 \times 10000$   
 $= 4852800$

d.)  $0.078 \times 1000$   
 $= 78$

2.) a)  $6.5$   
 $\times 24$   

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 $260$

b.)  $12.84$   
 $\times 1527$   

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 $89088$

c.)  $287.47$   
 $\times 76469$   

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 $2587.23$

$$\begin{array}{r} 3a.) \quad 4.98 \\ + 12.47 \\ \hline 17.45 \end{array}$$

$$\begin{array}{r} b.) \quad 19.8 \\ - 12.5 \\ \hline 07.3 \end{array}$$

$$4a) \quad 28.5$$

$$b) \quad 377.4$$

$$c) \quad 100.0$$

$$\begin{array}{r} 5a) \quad 8.306 \\ \quad 5.120 \\ + 42.908 \\ \hline 56.328 \end{array}$$

$$\begin{array}{r} b.) \quad \overset{6}{2} \overset{1}{4} \overset{9}{.} \overset{1}{0} \overset{0}{0} \\ - 56.37 \\ \hline 214.630 \\ + 7.041 \\ \hline 221.671 \end{array}$$

$$6a) \quad 47.29$$

$$b) \quad 387.07$$

$$c) \quad 58.06$$

$$7.a) \quad 32.7 + 3 \cdot 32 \times 8$$

$$\begin{array}{r} 32.70 \\ + 26.56 \\ \hline 59.26 \end{array}$$

$$\begin{array}{r} 3 \cdot 32 \\ \times 218 \\ \hline 26.56 \end{array}$$

$$b.) \quad 247.82 - 14.38 \times 5$$

$$\begin{array}{r} \overset{1}{2} \overset{4}{7} \overset{6}{.} \overset{1}{8} \overset{2}{2} \\ - 71.90 \\ \hline 175.92 \end{array}$$

$$\begin{array}{r} 14.38 \\ \times 2145 \\ \hline 71.90 \end{array}$$