

# October Assessment Revision

## Fractions

1a)  $\frac{17}{28}$

b)  $\frac{22}{35}$

c)  $\frac{20}{27}$

d)  $\frac{2}{3}$

e)  $\frac{2}{3}$

f)  $\frac{87}{56}$

2)  $\frac{31}{20}$  kg of flour altogether

## Equations

1a)  $3x + 9 = 65 - x$

$$3x + x = 65 - 9$$

$$4x = 56$$

$$\underline{\underline{x = 14}}$$

c)  $9k + 8 = 2k + 176$

$$9k - 2k = 176 - 8$$

$$7k = 168$$

$$\underline{\underline{k = 24}}$$

b)  $8 + 5n = 22 + 3n$

$$5n - 3n = 22 - 8$$

$$2n = 14$$

$$\underline{\underline{n = 7}}$$

d)  $5h - 25 = 89 - h$

$$5h + h = 89 + 25$$

$$6h = 114$$

$$\underline{\underline{h = 19}}$$

2) Girls =  $x$

Boys =  $x + 29$

a)  $(x) + (x + 29) = 845$

$$\underline{\underline{2x + 29 = 845}}$$

b)  $2x = 845 - 29$

$$2x = 816$$

$$x = 408$$

•  $408 + 29$   
•  $= \underline{\underline{437 \text{ Boys}}}$

•  $\underline{\underline{408 \text{ Girls}}}$

# Statistics

1.

5		69
6		<del>90</del> 6448884888 <del>8</del> <del>8</del>
7		<del>1</del> 2479580
8		5

5		69
6		04446688888899
7		01245789
8		5

$n = 26$

5|6 represents 76 kg.

b) Median = 68

2a) 29, ~~18~~, ~~8~~, ~~12~~, ~~8~~, ~~21~~, 34, ~~20~~, ~~18~~, ~~18~~, 28, ~~8~~, ~~8~~, ~~18~~

5, 8, 8, 8, 11, 12, 14, 15, 16, 20, 21, 28, 29, 34

2a) 

0		5888
1		12456
2		0189
3		4

$n = 14$

0|5 represents 5 years old.

b)i) Range =  $34 - 5 = 29$

ii) Mode = 8

iii) Median = 14.5

Sport	Number	Calculation	Angle
Swimming	12	$\frac{12}{60} \times 360$	$72^\circ$
Football	5	$\frac{5}{60} \times 360$	$30^\circ$
Athletics	20	$\frac{20}{60} \times 360$	$120^\circ$
Tennis	3	$\frac{3}{60} \times 360$	$18^\circ$
Track Cycling	15	$\frac{15}{60} \times 360$	$90^\circ$
Hockey	5	$\frac{5}{60} \times 360$	$30^\circ$
TOTAL	60		<u><math>360^\circ</math></u>

### Probability

$$1. a) P(\text{Black}) = \frac{6}{22} = \frac{3}{11}$$

$$b). P(\text{red}) = \frac{3}{17}$$

$$2a) P(\text{female}) = \frac{14}{18} = \frac{7}{9}$$

$$P(3) = \frac{1}{6 \times 3} = \frac{3}{18}$$

$\therefore$  The child is female is more likely

since  $\frac{14}{18} > \frac{3}{18}$

## Standard Form

1a)  $5.68 \times 10^6$

b)  $7.736 \times 10^{-5}$

c)  $4.309 \times 10^5$

2a) 42,000

b) 7,320,000

c) 0.000048

## Percentages

1.  $(0.9555)^6 \times 8240$

= \$6270.63

2. 25% = 349.75

100% =  $\frac{349.75}{25} \times 100$

= £1399

half = £16150

3.  $(0.876)^1 \times 32300 = £28294.80$

$(\quad)^2 = £24786.24$

$(\quad)^3 = £21712.75$

$(\quad)^4 = £19020.37$

$(\quad)^5 = £16661.84$

$(\quad)^6 = £14595.77$

∴ It would take 6 years since

$£14595.77 < £16150.$

## Australia

$$2013 = \text{€}975$$

$$2014 (0.946) \times 975 = \text{€}922.35$$

$$2015 = \text{€}872.54$$

$$2016 = \text{€}825.43$$

## Thailand

$$\text{€}790$$

$$(1.0462) \times 790 = \text{€}826.50$$

$$= \text{€}864.68$$

$$= \text{€}904.63$$

In 2016 it will be more expensive to travel to Thailand since  $\text{€}904.63 > \text{€}825.43$ .

$$5) (1.0728)^5 \times 6270$$

$$= \text{€}8909.66$$

$$CI = \text{€}8909.66 - \text{€}6270$$

$$= \text{€}2639.66$$

$$= \underline{\underline{\text{€}3000}}$$

$$6) \% = \frac{24.99 - 4.98}{24.99} \times 100$$

$$= \underline{\underline{80.1\%}}$$

$$7) 82\% = \text{€}21.85$$

$$100\% = \frac{21.85}{82} \times 100$$

$$= \underline{\underline{\text{€}26.65}}$$

$$8) \% = \frac{25 - 15.50}{15.50} \times 100$$
$$= \underline{\underline{61.3\%}}$$

### Circle

$$1) A = \pi r^2$$
$$= \pi \times 3.7^2$$
$$= \underline{\underline{43.01 \text{ m}^2}}$$

$$2) C = \pi D$$
$$520 = \pi \times D$$
$$\frac{520}{\pi} = D$$
$$D = \underline{\underline{165.52 \text{ m}}}$$

$$3) A = \frac{1}{2} \pi r^2$$
$$= \frac{1}{2} \times \pi \times 9.5^2$$
$$= \underline{\underline{141.76 \text{ m}^2}}$$

$$4) A = \frac{63}{360} \times \pi \times 8.2^2$$
$$= \underline{\underline{36.97 \text{ cm}^2}}$$

$$1) \text{ Area} = \frac{181}{360} \times \pi \times 13.2^2$$

$$= \underline{\underline{275.22 \text{ m}^2}}$$

$$b) i) \text{ Arc} = \frac{181}{360} \times \pi \times 26.4$$

$$= \underline{\underline{41.7 \text{ m}}}$$

$$ii) P = 41.7 + 13.2 + 13.2$$

$$= \underline{\underline{68.1 \text{ m}}}$$

$$6) \text{ Arc} = \frac{72}{360} \times \pi \times 13$$

$$= \underline{\underline{8.17 \text{ inches}}}$$

### Proportion

$$1) \begin{array}{l} 7 \rightarrow \text{€}1.40 \\ 1 \rightarrow \text{€}0.20 \\ 10 \rightarrow \underline{\underline{\text{€}2.00}} \end{array}$$

$$2) \begin{array}{l} 6 \rightarrow 84p \\ 1 \rightarrow 14p \\ 9 \rightarrow \underline{\underline{\text{€}1.26}} \end{array}$$

$$3) \begin{array}{l} 5 \rightarrow 5 \\ 1 \rightarrow \underline{\underline{25 \text{ days}}} \end{array}$$

$$\begin{aligned} 4) \quad 12 &\rightarrow 6 \\ 1 &\rightarrow 72 \\ 18 &\rightarrow \underline{\underline{4 \text{ days}}} \end{aligned}$$

$$\begin{aligned} 5) \quad 9 &\rightarrow 2700 \\ 1 &\rightarrow 300 \\ 5 &\rightarrow \underline{\underline{1500 \text{ cm}^3}} \end{aligned}$$

## Linear Relationships

$$1a) (2, 4)(3, 8)$$

$$m = \frac{8-4}{3-2} = \frac{4}{1} = \underline{\underline{4}}$$

$$b) (-3, -7)(-12, 5)$$

$$m = \frac{5+7}{-12+3} = \frac{12}{-9} = \underline{\underline{-\frac{4}{3}}}$$

$$2a) (3, 4)(0, -2)$$

$$m = \frac{-2-4}{0-3} = \frac{-6}{-3} = 2$$

$$y = \underline{\underline{2x - 2}}$$

$$b) (0, 5)(3, -4)$$

$$m = \frac{-4-5}{3-0} = \frac{-9}{3} = -3$$

$$y = \underline{\underline{-3x + 5}}$$



$$5y - 3x = 4$$

$$5y = 3x + 4$$

$$y = \frac{3}{5}x + \frac{4}{5}$$

$$\therefore m = \frac{3}{5}$$

$$c = \frac{4}{5}$$

$$b) 2y + 7x - 1 = 0$$

$$2y = -7x + 1$$

$$y = -\frac{7}{2}x + \frac{1}{2}$$

$$\therefore m = -\frac{7}{2}$$

$$c = \frac{1}{2}$$

$$c) 9x - 4y + 3 = 0$$

$$4y = 9x + 3$$

$$y = \frac{9}{4}x + \frac{3}{4}$$

$$\therefore m = \frac{9}{4}$$

$$c = \frac{3}{4}$$

$$4) 3y - 4x = 7$$

$$3y = 4x + 7$$

$$y = \frac{4}{3}x + \frac{7}{3}$$

$$\therefore m = \frac{4}{3} \quad \left(0, \frac{7}{3}\right)$$