

# S3 Nov Ass HW Q's . Answers

1.) a)  $17/28$

b.)  $22/35$

c.)  $20/27$

2.) Girls =  $x$

Boys =  $x + 29$

$2x + 29 = 845$

$2x = 408$

Girls 408

Boys 437

3.)  $24.99 - 4.98 / 24.99 \times 100 = 80.0\%$

4.)  $1.0376^6 \times 4 = 5.37^{\circ}\text{C} \Rightarrow 5.4^{\circ}\text{C}$

5.) ~~21.85/82~~

$82\% = \text{£}21.85$

$100\% = 21.85/82 \times 100$

$= \text{£}26.65$

6.) a.)  $m = \frac{8-4}{3-2} = \frac{4}{1} = 4$

b.)  $m = \frac{5+7}{-2+3} = \frac{12}{-1} = -4/3$

7.) a.)  $m = \frac{15-3}{4-0} = \frac{12}{4} = 3 \Rightarrow y = 3x + 3$

b.)  $m = \frac{-2-6}{-3-0} = \frac{-8}{-3} \Rightarrow y = \frac{8}{3}x + 6$

c.)  $m = \frac{-2+9}{0+2} = \frac{7}{2} \Rightarrow y = \frac{7}{2}x - 2$

d.)  $m = \frac{-14-0}{0+5} = \frac{-14}{5} \Rightarrow y = \frac{-14}{5}x - 14$

8.) a.)  $3/20$

b.)  $74/15$

c.)  $25/2$

d.)  $44/25$

9.)  $\text{£}63000 : \text{£}42000 : \text{£}84000$

10.) a.)  $m = 6 \quad c = 5$

b.)  $3y = 5x + 1$

$y = \frac{5}{3}x + \frac{1}{3}$

$m = \frac{5}{3} \quad c = \frac{1}{3}$

c.)  $-4y = -x - 1$

$y = \frac{1}{4}x + \frac{1}{4}$

$m = \frac{1}{4} \quad c = \frac{1}{4}$

11.) a)  $275.2 \text{ m}^2$

b.) i)  $41.7 \text{ m}$

ii)  $68.3 \text{ m}$

12.)  $0.9525^4 \times 28.3 = 23.29 = 23.3^\circ\text{C}$  35F

12.)  $7 \rightarrow \text{£} 1.40$

13.)  $5 \rightarrow 5 \text{ days}$   $1 \rightarrow \text{£} 0.20$

$10 \rightarrow \text{£} 2.00$

$1 \rightarrow 5 \times 5 = 25 \text{ days.}$

## 6 Similarity

1.)  $L_{ESF} = \frac{9}{6} = \frac{3}{2}$

$V_{ESF} = \frac{27}{8}$

$V = \frac{27}{8} \times 30 = 101.25 \text{ ml.}$

2.)  $L_{ESF} = \frac{2.16}{1.8} = \frac{6}{5}$

$A_{ESF} = \frac{36}{25}$

$A = \frac{36}{25} \times 5 = 7.2 \text{ cm}^2$

## 6 DST.

1.)  $D = S \times T = 144 \times 1.25 = 180 \text{ km}$

2.)  $S = \frac{D}{T} = \frac{210}{4.75} = 44.2 \text{ km/h.}$

3.)  $D = S \times T = 30 \times 4.5 = 135 \text{ km}$

4.)  $T = \frac{D}{S} = \frac{45}{30} = 1.5 \Rightarrow 1 \text{ hr } 30 \text{ min}$

5.)  $S = \frac{D}{T} = \frac{390}{3.75} = 104 \text{ km/h}$

6.)  $T = \frac{D}{S} = \frac{180}{80} = 2.25 \Rightarrow 2 \text{ hrs } 15 \text{ mins}$

Arrives at  
14:10

$$7.) s = D/T = 28/2/3 = 42 \text{ m/h}$$

$$40 \text{ mins} = 2/3 \text{ hr.}$$

### Equation 3

$$1a.) 9h - 18 - 3h = 2h - 10 + 3 \quad (b.) \frac{5(i-2)}{3} = \frac{8(i+3)}{7}$$

$$6h - 18 = 2h - 7$$

$$4h = 11$$

$$h = 11/4$$

$$\frac{5i-10}{3} = \frac{8i+24}{7}$$

$$7(5i-10) = 3(8i+24)$$

$$35i-70 = 24i+72$$

$$11i = 142$$

$$i = 142/11$$

$$2.) \frac{3e-5}{4} = \frac{e-10}{3}$$

$$12x^3(3e-5) = 12x^4(e-10)$$

$$3(3e-5) = 4(e-10)$$

$$9e-15 = 4e-40$$

$$5e = -25$$

$$e = -5$$

$$b.) \frac{3h}{2} - \frac{2h+4}{3} = \frac{2h}{3}$$

$$\frac{6 \times 3h}{2} - \frac{2 \times (2h+4)}{3} = \frac{2 \times 2h}{3}$$

$$9h - 2(2h+4) = 4h$$

$$9h - 4h - 8 = 4h$$

$$h = 8.$$

$$3.) a) 3e - 5 > 18$$

$$3e > 23$$

$$e > 23/3$$

$$b.) 5(3p-2) < 28$$

$$15p - 10 < 28$$

$$15p < 38$$

$$p < 38/15.$$

### Volume

$$1.) V = \pi \times 12^2 \times 19 = 8545.397... = \underline{8600 \text{ cm}^3}$$

$$2.) 103.67 = \frac{1}{3} \times \pi \times r^2 \times 11$$

$$r = \sqrt{\frac{103.67}{\frac{1}{3}\pi \times 11}} = 2.999 \approx 3 \text{ mm}$$

$$3a.) V = \frac{4}{3}\pi(6)^3 = 904.78 = 904 \text{ cm}^3$$

$$b.) V = \frac{1}{3}(4)^2(8) = 42.67 = 40 \text{ cm}^3$$

$$c.) V = \frac{1}{3}\pi(4)^2(7.1) = 118.96.. = 120 \text{ cm}^3$$

$$4.) r = \sqrt{\frac{398.67}{\frac{1}{3}\pi \times 47}} = 9.0 \text{ mm}$$

$$5.) V = \left( \frac{4}{3}\pi \times 0.905^3 \right) + \left( \pi \times 0.905^2 \times 4.78 \right) = \frac{6.59 - 4.78}{2} = 0.905$$

$$= 15.4 \text{ cm}^3$$

$$6.) V = \frac{2}{3} \times \pi \times 3^3$$

$$= \frac{2}{3} \times 3.14 \times 27$$

$$= 2 \times 3.14 \times 9$$

$$= 6.28$$

$$\frac{r}{9}$$

$$\underline{56.52 \text{ m}^3}$$