

IGCSE Higher Week 7 answers

1, a, $\frac{4}{9}$ b, $\frac{5}{9}$ c, $\frac{7}{9}$ d, $\frac{1}{30}$ e, $\frac{4}{45}$ f, $\frac{8}{33}$ g, $\frac{38}{99}$
 h, $\frac{31}{33}$ i, $\frac{26}{111}$ j, $\frac{151}{333}$ k, $\frac{13}{15}$ l, $\frac{28}{495}$ m, $\frac{31}{198}$ n, $\frac{6}{90}$

2, a, £60.30 b, £125 c, £73.40 d, £8,930

3, a, £50.40 b, £155 c, £39.17 d, £18.70

4, a, $5000 \times 1.03 = £5,150$ b, $5000 \times 1.03^4 = £5,627.54$
 c, £6,333.85

5, 10 years

6, **A** $13,000 \times 0.027 \times 6 = 2106 + 13,000 = £15,106$ * ←
 B $13,000 \times 1.025^6 = £15,076$

7, **A** $5,500 \times 0.02 \times 3 = 330 + 5,500 = £5,830$

+ **B** 1st year $5,500 \times 1.045 = £5,747.50$

+ 2nd & 3rd year ~~5,747.50~~ $5,747.50 \times 1.009^2 = £5,851.42$ * ←

8, a, $14,999 \times 0.89^5 = £8,375.53$

b, 6 years

9, $273 \div 1.16^5 = £129.98$

10, $252 \times 1.02^3 = 267$ people

11, a, $45.49 = 65\%$ b, £13 c, £3.69

$0.6998 \times 100 = 69.98\%$

£69.98 = original

12, c, $13.99 \approx 142\%$

$0.098 = 1\%$

Cost price = £9.85

b, 20% off \rightarrow £11.19

percentage profit

$\frac{11.19 - 9.85}{9.85} = 13.6\%$

13, $£175.49 \div 0.65 = £269.98$

14, £52.54

15, 1.53m

16, $\frac{50}{230} \times 100 = 21.7\%$

17, $\frac{2.6}{25.6} \times 100 = 10.2\%$

18, New dimensions 12cm by 18cm Area = 216cm^2
 Old Area = 150cm^2

$$\% \text{ increase} = \frac{66}{150} = 44\%$$

19, F : NF
 $7 : 3$
 $\frac{7}{10} : \frac{3}{10}$
 F herd back
 60% of $\frac{7}{10}$
 $\frac{60}{100} \times \frac{70}{100} = 42\%$

NF herd back
 20% of $\frac{3}{10}$
 $\frac{20}{100} \times \frac{30}{100} = 6\%$
 herd backs 48%

20, a, O W 0.5 litres of orange
 $1 : 6$
 $0.5\text{L} : 3\text{ litres}$

b, O = W
 $1 : 6$
 $\frac{1}{7} : \frac{6}{7}$
 $60\text{ml} : 360\text{ml}$

21 G N F
 $10 : 13 : 11$
 $\frac{10}{34} : \frac{13}{34} : \frac{11}{34}$
 $\pounds 22.78 \div 34 = 67\text{p}$
 Gemme gets $\pounds 6.70$
 Neil gets $\pounds 8.71$
 Fryn gets $\pounds 7.37$

22 T 14
 $3 : 5$
 $2\text{ parts} = 14$
 $1\text{ part} = 7\text{ sweets}$
 21 35

23 a, i) $\pounds 155,000$
 ii) $\pounds 165,000$

b, $\pounds 210,000 = 105\%$ $\therefore 100\% = \pounds 200,000$

24, $3400 \times 1.0x^5 = 3608.96$
 $1.0x^5 = 3608.96 \div 3400$
 $1.0x = \sqrt[5]{1.0615}$
 $= 1.012$
 $\therefore x\% = 1.2\%$

$100 + x \Rightarrow$
 $10x$
 $\Rightarrow 1.0x$ as multiplier