

Percentage Change Past Paper Questions (MS)



Q1.

| PAPER: 5MB3F_01 | | | | |
|-----------------|---------|----------------|------|---|
| Question | Working | Answer | Mark | Notes |
| (a) | | $\frac{7}{13}$ | 2 | M1 for $\frac{35}{65}$ A1 cao |
| (b) | | 15.625 | 2 | M1 for $\frac{1.25}{8} \times 100$ oe A1 for 15.625 oe |

Q2.

| Question | Working | Answer | Mark | Notes |
|----------|---------|-----------------------------|------|--|
| | | Shown, from correct figures | M1 | for method to find % increase or % decrease, e.g. $\frac{120 - 80}{80} \times 100 (= 50)$ or $\frac{200 - 120}{200} \times 100 (= 40)$ |
| | | | M1 | for complete method, e.g. $\frac{120 - 80}{80} \times 100$ and $\frac{200 - 120}{200} \times 100$ |
| | | | C1 | for 50% and 40%/less than 50% leading to correct conclusion |

Q3.



| Question | Answer | Mark | Mark scheme | Additional guidance |
|----------|----------------|------|---|--|
| | No (supported) | P1 | for start to process, eg $2100 \times \frac{40}{100}$ (= 840) or $100 - 40$ (= 60) | May compare bonus shares of a single salesman or total bonus share for all 7 salesmen. |
| | | P1 | for process to find the 7 salesmen's share of bonus, eg $2100 - "840"$ (= 1260) or $2100 \times \frac{"60"}{100}$ (= 1260) | |
| | | P1 | for process to find bonus amount each salesman gets eg $"1260" \div 7$ (= 180) OR process to find the total bonus for all salesmen if shared equally, eg $\frac{2100}{10} \times 7$ (= 1470) | |
| | | P1 | for process to compare what a single salesman gets under each scheme, eg $"180" \times \frac{25}{100}$ (= 45) and $\frac{"2100"}{10} - "180"$ (= 30) or $"180" \times \frac{25}{100}$ (= 45) and $"180" + "45"$ (= 225) oe and $\frac{2100}{10}$ (= 210) or $(\frac{2100}{10} - "180") \div "180" \times 100$ (= 16.6...) OR process to compare what all salesmen gets under each scheme, eg $"1260" \times \frac{25}{100}$ (= 315) and $"1470" - "1260"$ (= 210) or $"1260" \times \frac{25}{100}$ (= 315) and $"1260" + "315"$ (= 1575) oe and $"1470"$ or $(("1470" - "1260") \div "1260" \times 100$ (= 16.6...) | |
| | | A1 | 'No' supported by correct figures, eg 45 and 30, 225 and 210, 315 and 210 or 1575 and 1470 or 16.6...)(% and 25%) | Do not award unless correct figures have been shown to support a statement made that the salesman was not correct. |

Q4.

| Question | Answer | Mark | Mark scheme | Additional guidance |
|----------|--------|------|--|------------------------------|
| | 8 | M1 | for $158220 - 146500$ (=11720) or $158220 \div 146500$ (=1.08) | 0.08 as an answer implies M1 |
| | | M1 | for complete method, eg $(158220 - 146500) \div 146500 \times 100$ oe or $1.08 \times 100 - 100$ | |
| | | A1 | cao | |



Q5.

| Question | Answer | Mark | Mark scheme | Additional guidance |
|----------|--------|------|--|---------------------|
| | 30 | M1 | for $80 - 56 (= 24)$ or for $\frac{56}{80} \times 100 (=70)$ or (loss of) $10\% = 80 \div 10 (= 8)$ | |
| | | M1 | for a complete method, eg " 24 " $\div 80 \times 100$ or $100 - "$ 70 " | |
| | | A1 | cao | |

Q6.

| Question | Working | Answer | Mark | Notes |
|----------|---|--------|------|---|
| | $\pounds 6 - \pounds 5.64$ $= 36\text{p}$ or $50\text{p} - 47\text{p} =$ 3p | 6.4 | P1 | for a strategy to compare the same number of bottles e.g. $\pounds 5.64 \div 12$ $(= 47 \text{ or } 0.47)$ or $12 \times 50\text{p} (= 6 \text{ or } 600)$ or $36 \text{ or } 0.36 \text{ or } 3 \text{ or } 0.03$ |
| | | | P1 | for start of process to find percentage profit e.g. $\frac{"36"}{564}$ or $\frac{"3"}{47}$ or $\frac{"6"}{5.64}$ or $\frac{50}{"47"}$ oe with consistent units |
| | 6.3829787 ...% | | A1 | for answer in the range 6.3 to 6.4 |

Q7.

| Question | Answer | Mark | Mark scheme | Additional guidance |
|----------|--------------|------|---|---------------------|
| | 260 to 260.5 | M1 | for $883 - 245 (=638)$ or $883 \div 245 (=3.60..)$ or $883 \div 245 \times 100 (=360(.408..))$ oe | |
| | | M1 | for a complete method to find the percentage increase eg " 638 " $\div 245 \times 100 (=260(.408..))$ or $883 \div 245 \times 100 - 100$ $(=260(.408..))$ oe | |
| | | A1 | Accept answers in the range 260 to 260.5 | |

Q8.



| PAPER: IMA0/2F | | | | |
|----------------|---------|--------|------|---|
| Question | Working | Answer | Mark | Notes |
| (a) | | 9.6 | 2 | M1 for complete method to calculate the mean eg $(12+6+7+10+13) \div 5$ A1 for 9.6 oe |
| (b) | | 5 | 2 | M1 for $\frac{12}{240} \times 100$ oe A1 cao |

Q9.

| Paper 1MA1: 3F | | | |
|----------------|---|-------------------------|--|
| Question | Working | Answer | Notes |
| (a) | $\frac{388 - 320}{320} \times 100 =$ | 21.25 | M1 For a complete method A1 21.25% |
| (b) | A 388 (million) \div 3200 = £0.12125 million (£121 250) B 57(million) \div 640 = £0.0890625 million (£89062.50) | Company A + evidence | M1 Method to find sales/person for A or B for 2014 A1 £121 250 or £89062.50 C1 Company A with £121 250 and £89062.50 |