**Topic: Skills in percentage, ratio and rates**

Time: 45 mins Marks: /45 marks

**No calculator allowed**



**Question One: [1, 2, 1, 1, 1, 1, 1, 1, 1 : 10 marks]**

a) Complete the following ratios:

ii) ii) iii)

b) Simplify the following ratios:

i) iii) iii)

iv) v) vi)

**Question Two: [1, 1, 2, 2: 6 marks]**

Calculate the following percentages:

a) of b) of

c) Increase by d) Reduce by

**Question Three: [5, 4: 9 marks]**

a) g prepackaged grape Perino tomato packs are on special at Coles. 2 packs for $6. 1 pack costs How much do you save per kilo with the special?

b) Calculate the unit price of each of the following to show which is the best value option.

for $25

for $15

for $9 

**Question Four [3, 2, 6: 11 marks]**

a) If a map has a scale of 1 : 1000, what is the real distance for a 2 cm measurement on the map, in:

i) metres ii) kilometres

b) Blake made a scale drawing of a super-yacht. If the yacht is 30 m long in real life and it is 15 cm in the drawing, what scale has been used?

c) Convert the following rates to m/sec

i) 6000cm /2 min ii) 72 km /1 hours

**Question 5: [3, 2, 2, 2: 9 marks]**

a) Louise’s bank shares rose by 15%. If they were originally $0.40 each, what are they worth now?

b) Sam received a profit from an investment which paid out in the ratio of 2 : 3. If Sam invested $10 000 how much profit did she make?

c) Lisa earns 8% commission on sales. How much commission does she receive on a $640 sale?

d) Holly receives a quote from a plumber for $239. This price is excluding GST. What is cost of the job when GST is included?

**Skills in percentage, ratio and rates SOLUTIONS**

Time: 45 mins Marks: /45 marks

**No calculator allowed**



**Question One: [2, 1, 1, 1, 1, 1, 1, 1, 1 : 10 marks]**

a) Complete the following ratios:

ii) ii) iii)

b) Simplify the following ratios:

i) iii) iii)





iv) v) vi)

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**Question Two: [1, 1, 2, 2: 6 marks]**

Calculate the following percentages:

a) of b) of

10% = 22.2 10% = 5

30% = 15

c) Increase by d) Reduce by

 25% = 30 10% = 9

 75% = 90 1% = 0.9

11% = 9.9

**Question Three: [5, 4: 9 marks]**

a) g prepackaged grape Perino tomato packs are on special at Coles. 2 packs for $6. 1 pack costs How much do you save per kilo with the special?



1 kg @ normal price 🡪 5 x 3.50 = $17.50/kg



1 kg @ special price 🡪 2.5 x 6 = $15/kg



$2.50/kg saving

b) Calculate the unit price of each of the following to show which is the best value option.

for $25 $25/kg 🡨 BEST VALUE

for $15 $60/kg

for $9  $45/kg

**Question Four [3, 2, 6: 11 marks]**

a) If a map has a scale of 1 : 1000, what is the real distance for a 2 cm measurement on the map, in:

i) metres ii) kilometres

 1 : 1000 0.02 km

 2 : 2000 cm

20 m

b) Blake made a scale drawing of a super-yacht. If the yacht is 30 m long in real life and it is 15 cm in the drawing, what scale has been used?



15 : 3000

 1 : 200

c) Convert the following rates to m/sec

i) 6000 cm /2 min ii) 72 km /1 hours





 = 0.5 m/sec = 20 m/sec

**Question 5: [3, 2, 2, 2: 9 marks]**

a) Louise’s bank shares rose by 15%. If they were originally $0.40 each, what are they worth now?

10% = $0.04

5% = $0.02 Now worth $0.46

15% = $0.06

b) Sam received a profit from an investment which paid out in the ratio of 2:3. If Sam invested $10 000 how much profit did she make?

 2:3

 10000: 15000

Profit of $5000

c) Lisa earns 8% commission on sales. How much commission does she receive on a $640 sale?

10% = 64

1% = 6.4

2% = 12.8

8% = $51.20

d) Holly receives a quote from a plumber for $239. This price is excluding GST. What is cost of the job when GST is included?

 10% = 23.90

 Cost of job = $262.90