Student Name **MARKING KEY**

Eastern Goldfields College
Mathematics Essential U1 2017
Test 1 – Calculator Free

Total Marks: 22 marks

Time allowed: 15 minutes

No calculator or notes permitted for this section.

Answer all of the following questions. Show all working to obtain full marks.

Question 1 [5 marks – 1, 1, 1, 1, 1]

Round each number to the given accuracy:

(a) 346 (nearest 10)

350 ✓

(b) 27.48 (one decimal place)

27.5 ✓

(c) $72.634 (nearest dollar)

$73 ✓

(d) $$72.634 (nearest cent)

$72.63 ✓

(e) $72.634 (nearest 5c)

$72.65 ✓

Question 2 [6 marks – 1, 1, 1, 1, 2]

(a) $14 + 6 \div 3$

16 ✓

(b) $4 \times (5 + (56 \div 8))$ ✓

48

(c) 15% of $800

$120 ✓

(d) $\frac{3}{5}$ of $90

$54 ✓

(e) Two students answer the following question:
$30 \div 5 \times 2$
Bob says the answer is 12 but Leo insists that the answer is 3. Who is correct and why?

Bob. ✓ Division is done first ✓ because it came before the multiplication.

Question 3 [2 Marks]

Rachel bought a new pair of shoes in a '25% off' sale. Normally the shoes cost $90. How much did Rachel pay for the shoes in the sale?

$90 \div 4 = 22.5$ ✓   OR $\frac{3}{4}$ of $90 = \$67.5$ ✓

$90 - 22.5 = \$67.5$ ✓

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Question 4 [1 Mark]

Write the set of numbers in order from smallest to largest.
53.7   53.8   53.745   53.81   53.75

53.7, 53.745, 53.75, 53.8, 53.81 ✓

Question 5 [4 Marks 1, 1, 1, 1]

(a) Express $\frac{3}{4}$ as a decimal.

0.75 ✓

(b) Express 65% as a decimal.

0.65 ✓

(c) Express $\frac{1}{5}$ as a percentage.

20% ✓

(d) Express 0.25 as a fraction (Simplest form).

$\frac{1}{4}$ ✓

Question 6 [4 Marks 1, 1, 1, 1]

In each pair, **circle** the amount that has the greater value.

(a) 0.7 or (80%) ✓

(b) $\frac{2}{3}$ or (75%) ✓

(c) $\left(\frac{3}{7}\right)$ or $\frac{1}{7}$ ✓

(d) $\frac{4}{5}$ or $\left(\frac{5}{4}\right)$ ✓

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Eastern Goldfields College
Mathematics Essential U1 2017

Test 1 – Calculator Assumed

Total Marks: 25 marks

Time allowed: 35 minutes

One A4 page of notes permitted in this section.

Question 1   [2 Marks]

Rhett has $45 000 saved. He is going to use two thirds of his savings as a deposit on a house. How much is his deposit?

$$45000 \times \frac{2}{3} = \$30,000$$

Question 2   [3 marks – 1, 2]

Christina sells Tupperware and earns 8% of the total sales. One week she had three parties, one valued at $1500, one valued at $2200 and one at $940.

a)   What was the total value of sales for the week?

$$1500 + 2200 + 940 = \$4640 ✓$$

b)   What commission did she earn?

$$4640 \times 0.08 = \$371 \cdot 20 ✓$$

Question 3   [4 marks – 2, 2]

John has just commenced his first job ever at J-Mart earning $730 per week with 9.5% superannuation.

(a)   Calculate his superannuation for the week.

$$730 \times 0.095 = \$69.35 ✓$$

(b)   How many weeks will it take his superannuation to grow to $1000?

$$\frac{1000}{69.35} = 14 \cdot 42 ✓$$

$$\therefore 15 \text{ weeks.} ✓$$

Question 4   [6 marks – 1, 3, 2]

The distance to travel from Kalgoorlie to Esperance by road is 401km. A motorist will travel from Kalgoorlie to Esperance stopping in Kambalda East, Norseman and Grass Patch on the way. This is displayed in the table below:

Travel	Distance
Kalgoorlie to Kambalda East	60 km
Kambalda East to Norseman	133 km
Norseman to Grass Patch	127 km ✓
Grass Patch to Esperance	81 km
Total	401 km

a)   Fill in the missing distance
b)   What percentage of the trip has been completed:
(i) On reaching Norseman?   (ii) On reaching Grass Patch?

$$\frac{(60+133)}{401} \times 100 ✓$$

$$= 48 \cdot 13\% \text{ (allow 48)}$$

$$\frac{(60+133+127)}{401} \times 100 = 79 \cdot 80\% ✓$$

$$\text{(Allow 80)}$$

c)   How far from Kalgoorlie will the motorist be when the trip is:
(i) Half complete? ✓   (ii) Three quarters complete?

$$401 \div 2 = 200 \cdot 5 km ✓$$

$$401 \times 0.75 = 300 \cdot 75 km ✓$$

Question 6   [3 marks – 1, 2]

Adrian asked 30 friends about their favourite barbecue food. The table below shows the results.

(a)   For what fraction of the friends is seafood their favourite?

$$\frac{8}{30} \quad \left(\text{accept } \frac{4}{15}\right) ✓$$

Food	Number who chose it as their favourite
Sausages	12
Steak	10
Seafood	8

(b)   What proportion of the group prefers sausages? Express as a decimal

$$\frac{12}{30} = 0 \cdot 4 ✓$$

Question 7   [7 marks – 5, 2]

Three online stores are selling iPad Airs for the following prices:

| RICK SMYTH'S iPad Air $605 | HARDLY NORMAL iPad Air $709 15% OFF | RETRO VISUAL iPad Air $720 $\frac{1}{6}$ OFF |

(a)   Which store offers the best deal and by how much? Show working to support your answer.

$\left(\begin{array}{c} \text{Allow other methods} \\ \text{of working} \end{array} \right)$

HN

$709 \times 0.15 = 106.35$ ✓

$709 - 106.35 = \$602.65$ ✓

R.V ✓

$720 \times \frac{1}{6} = 120$

$720 - 120 = \$600$

∴ Best deal is Retro Visual by $2.65 ✓

(b)   Each store has postage charges as follows:

Rick Smyth's - $25   Hardly Normal - $15   Retro Visual - $19.95

Does this affect which store you choose? Explain with calculations.

F.T amounts from part a

$605 + 25$
$= 630$

$602.65 + 15$
$= 617.65$

$600 + 19.95$ ✓
$= 619.95$

Yes. ~~Retro Visual~~ Hardly Normal is now cheaper ✓

END OF TEST