−1 missing or incorrect units

EGC
Eastern Goldfields College

Mathematics Essentials 2015
Test 2
Task Weighting: 10%

Student Name: _____

Time Allowed: 50 Minutes   Total Marks: 42

Calculators and files are allowed in this test.
Answer all of the following questions. Show all working to maximise marks.

Question 1 [3 Marks: 1, 2]

(a) Which is the correct abbreviation for 25 centimetres?

25 cms   or   (25 cm)   (circle the correct answer) ✓

(b) Which unit, millimetre, centimetre, metre or kilometre, would you use to measure each of these lengths? Use the correct abbreviations for your answers.

i.   The length of your calculator   cm ✓

ii. The width of a postage stamp   mm ✓

iii. The length of a cricket pitch   m ✓

iv. The distance from Kalgoorlie to Perth   Km ✓

Question 2 [9 marks: 1, 1, 1, 1, 1, 1, 1, 2]

Complete the missing sections.

a) 3 m = __300__ cm ✓

b) 5.35 km = __5350__ m ✓

c) 4000 m = __4__ km ✓

d) 23 cm = __230__ mm ✓

e) 360 sec = __6__ min ✓

f) 168 hr = __7__ day ✓

g) 2 cm² = __200__ mm² ✓

h) 30 km/hr = __500__ m/min ✓✓

(12)

Question 3 [2 marks]

Katie is travelling to Esperence which is 450 km away. Katie is travelling in her car at 105 km/hr. How long will it take Katie to travel to Esperence? (show working)
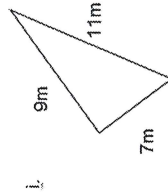
$450 \div 105 = 4.3$ hrs ✓ (round correctly)
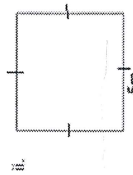
4.29 hrs

Question 4 [8 marks: 3, 5]

(a) Kylie has a 5 m long piece of lace which she is going to use to put around the outside of 4 handkerchiefs. She will need 120 cm for each handkerchief. How much lace will be left when Kylie is finished?   (Show working)

500 cm

$120 \times 4 = 480$ cm ✓

$500 - 480 = 20$ cm ✓

(b) Calculate the perimeters of these shapes. (Show working)

i.   (triangle: 9m, 7m, 11m)

$P = 9 + 7 + 11$
$= 27$ m ✓

ii. (square: 5m)

$P = 5 \times 4$
$= 20$ m ✓

iii. (parallelogram: 8m, 11m, 8m, 11m)

$P = 22 + 16$
$= 38$ m ✓

iv. (shape: 9m, 5.5m, 5m, 6m, 7m, 1 400 cm)

$P = 14 + 9 + 11 + 5 + 6 + 7$
$= 52$ m ✓

−1 preview

(10)
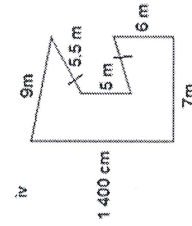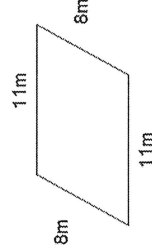
Question 5 [3 marks: 1, 2]

Joe wants to put new carpet in his bedroom. His bedroom is 4.5 m long and 3.2 m wide.

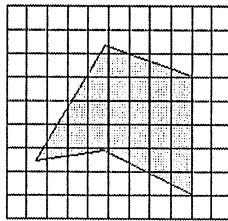(a) Draw a diagram of Joe's bedroom floor with dimensions.

3.2 ✓
4.5m
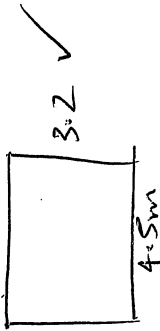
(b) How many square metres of carpet does Joe need to purchase in order to cover his bedroom? (show working)

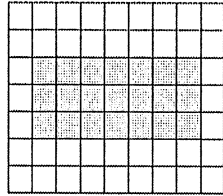$A = 3.2 \times 4.5$ ✓
$= 14.4 \ m^2$ ✓

Question 6 [2 marks: 1, 1]

(a) Estimate the area of the following shape. Each square represents 1 unit².

~26 units² ✓
~25~27 only
allow cm²

(b) Calculate the area of the following shape. Each square represents 1 unit².

21 units² ✓

Question 7 [5 marks: 2, 2, 4]

7 ... 3

Calculate the area of the following shapes: (Show working)

a)

6 m

$A = 6 \times 6$ ✓
$= 36 \ m^2$ ✓

b)

12m 16m
20m

$A = \tfrac{1}{2} \times 12 \times 16$ ✓
$= 96 \ m^2$ ✓

c)

4.5 m   9m
11m   ① 400 cm   ②

$A = (9+11) \div 2 \times 4$ OR.
$= 40 \ m^2$

$A_① = 9 \times 4 = 36$ ✓
$A_② = 1 \times 4 = 4$ ✓
$\therefore A = 36 + 4$
$= 40 \ m^2$ ✓
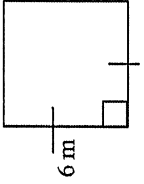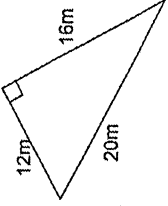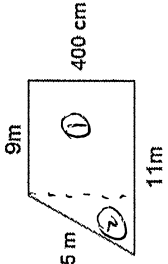
Question 8 [4 marks: 2, 2]

a) John plays cricket. If John can bowl 6 balls in 5 minutes. How many balls can he bowl in ½ hour?

$6 \times 6 = 36$ ✓✓

b) At Coles you have a choice of buying loose potatoes or a bag of potatoes. Loose potatoes cost $2.30 /kg and a 3 kg bag of potatoes is $7. Which is the better buy **and explain** how you reached your answer?
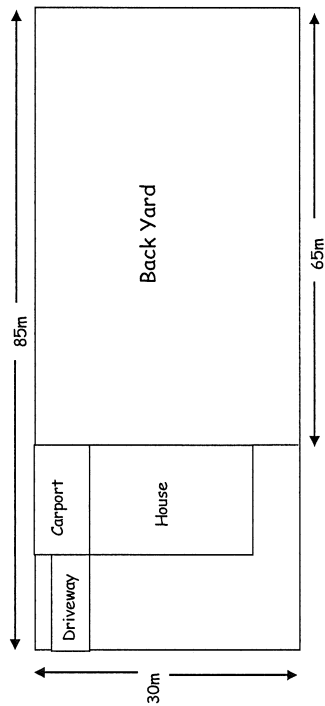
$3 \times 2.30 = \$6.90$ ✓
∴ Loose potatoes is better ✓

Question 9   [7 marks: 2, 2, 3]

This is the position of Grant's house on his block of land.

Driveway	Carport	
	House	

85m

30m

65m

Back Yard

a) The block of land is 30 m wide and 85 m long. What is the area of the block of land?

$A = 30 \times 85$ ✓

$= 2550 \, m^2$ ✓

b) The land is valued at $95 per square metre. Calculate the value of the block of land.

$2550 \times 95 = \$242250$ ✓

c) The grass in the back yard needs fertilising. One bag of fertiliser covers 650 m^2. Will one bag be enough for Grant's back yard?

Give a reason for your answer.

$A = 65 \times 30$ ✓

$= 1950 \, m^2$ ✓

No ✓ He will actually need 3 bags.

$1950 \div 650 = 3$ ✓

END OF TEST