Year 7

End of Term 1 Test 2018

Baldivis Secondary College

me: SOLUTIONS Class: _____ Time: 55 minutes Total Mark: ____/59

Show working and answers on this sheet. Show working in sufficient detail to support your answers. Incorrect answers without supporting reasoning will be allocated zero marks.

Resources: 1 A4 page of notes (1 side)

Non Calculator Section

Question 1 — 2 marks

Circle the largest number and underline the lowest number

a) -6 -4 (9) -12 2

b) 0 15 -2 -21 (19)

Question 2 — 2 marks

Order the following from lowest to highest:

-2, 6, -6, 3, 1, -1, 0 -6, -2, -1, 0, 1, 3, 6

Question 3 — 2 marks

Indicate which is integer is largest by placing either a < or > in between each set of numbers:

a) -7 > -12 b) -5 < 4

Question 4 — 4 marks

Complete the following:

a) 2 + -3 = -1

b) -12 - -11 = -1

c) -5 + 2 = -3

d) 8 - +3 = 5

Question 5 — 4 marks

Use the symbols <, > or = to complete the number sentences.

a) 12 + 27 = 21 + 18
39 39

b) 3 x (2 + 5) > 3 x 2 + 3 x 4
21 18

c) $2^2 + 4^2$ < $5^2 \times 2$
4 16
20 50

d) (3 + 5) – 4 = 3 + (5 – 4)
4 4

Question 6 **2 marks**

The minimum temperature in the city of Destiny was -12°C at 6am. It increased by 5°C in the next two hours and then increased by 9°C in the next five hours to reach its maximum. At what time did it reach its maximum temperature and what was this maximum temperature?

$-12+5+9 = 2°C$ at 1pm

Question 7 **2 marks**

Complete the table.

Index Form	Expanded Form
2^4	2x2x2x2
10^6	10x10x10x10x10x10
5^3	5x5x5
12^5	12x12x12x12x12

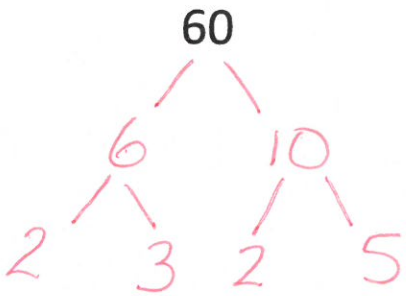
Question 8 **4 marks**

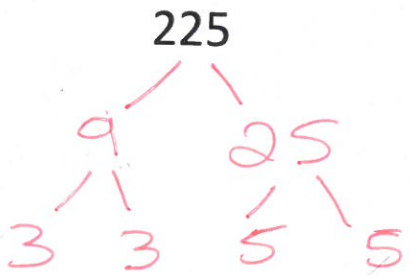
Evaluate the following squares.

Index Form	Evaluate
3^2	9
10^2	100
4^2	16
20^2	400

Question 9 **8 marks**

Use a factor tree to find the prime factors of 60.





The Prime Factors of 60= $2^2 \times 3 \times 5$

The Prime Factors of 225= $3^2 \times 5^2$

Use the prime factor trees to find the highest Common Factor (HCF) of 60 and 225. 15.

How do you know that 225 is a square number from it's prime factors.

All prime-factors are squared

Question 10 **3 marks**

Evaluate the following square roots

a) $\sqrt{16}$ = 4

b) $\sqrt{81}$ = 9

c) $\sqrt{100}$ = 10

Question 11 — **3 marks**

Evaluate

a) $\sqrt{3600}$ = 60

b) $\sqrt{0.64}$ = 0.8

c) $5 + \sqrt{49}$ = 5 + 7 = 12

Question 12 — **2 marks**

a. $\sqrt{20}$ is between which two integers?

$\sqrt{16}$ $\sqrt{25}$

4 —— 5

Between 4 and 5

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Name: _____

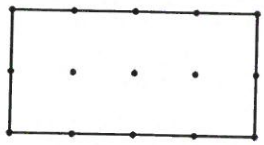
Calculator Section

Question 15

6 marks

Find the Perimeter and Area of the following shapes. ***The distance between the dots is 1cm***

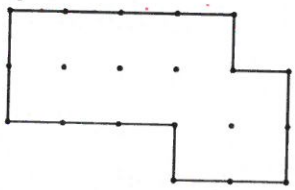
a)



Perimeter = 12 cm

Area = $2 \times 4 = 8cm^2$

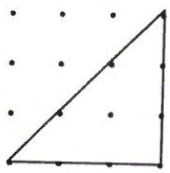
b)



Perimeter = 16cm

Area = $11\ cm^3$

c)



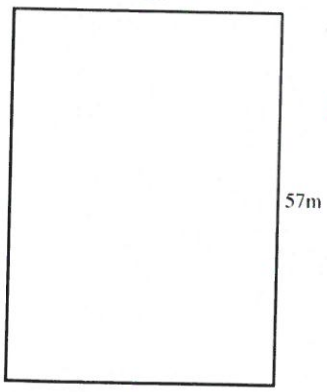
Perimeter = 9cm

Area = $4\frac{1}{2}\ cm^2$

Question 16

1, 1, 1, 2, 2 - 6 marks

Find the **area of the following shapes. Show your work**



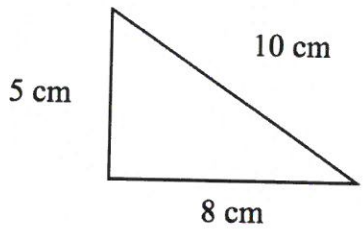
a.

$A = L \times W$

$= 41 \times 57$

$= 2337cm^2$

b.

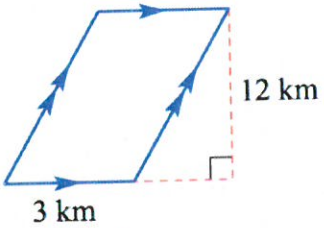


$A = \frac{1}{2}b \times h$

$= \frac{1}{2}8 \times 5$

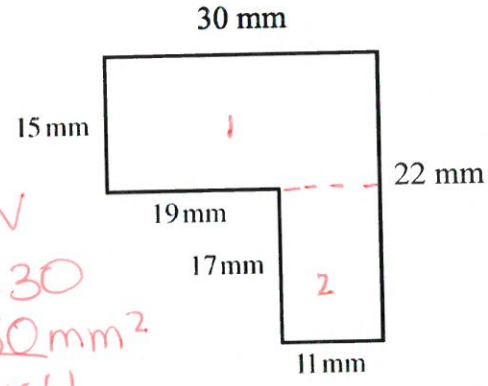
$= 20cm^2$

c.



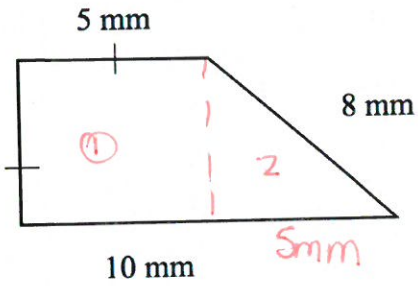
$A = b \times h$
$= 3 \times 12$
$= 36 km^2$

d.



$A_1 = L \times W$
$= 15 \times 30$
$= 450 mm^2$
$A_2 = 17 \times 11$
$= 187 mm^2$
Total Area $= 450 + 187$
$= 637 mm^2$

e.



$A_1 = L \times W$
$= 5 \times 5$
$= 25 mm^2$
$A_2 = \frac{1}{2} b \times h$
$= \frac{1}{2}(5 \times 5)$
$= 17.5 mm^2$

Total Area $=$
$= 25 + 17.5$
$= 42.5 mm^2$

Question 17 **2 marks**

Two hundred square tiles, each measuring 10 cm by 10 cm, are used to tile an open floor area. Find the area of flooring that is tiled.

$A = 10 \times 10$
$= 100 cm^2$

$100 \times 200 = 20000 cm^2$

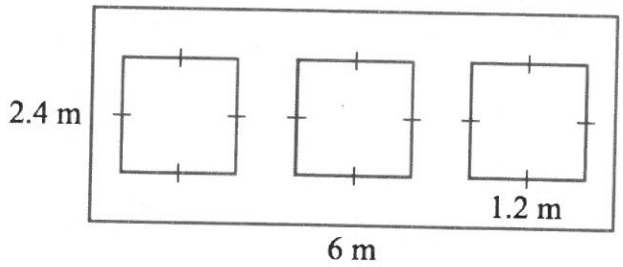
Question 18 **2 marks**

The area of a triangle is 10 cm^2 and its base length is 4 cm. Find its height.

$A = \frac{1}{2} b \times h$
$10 = \frac{1}{2} 4 \times h$
$h = \frac{10}{2}$
$= 5 cm$

Question 19 **4 marks**

A wall has three square holes cut into it to allow for windows, as shown. Find the remaining area of the wall.



$A = L \times W$

$= 2.4 \times 6$

$= 14.4 m^2$

$A = 1.2 \times 1.2$

$= 1.44 \times 3$

$= 4.32$

$= 14.4 - 4.32$

$= 10.38 m^2$

END OF TEST