Name: _____ Date:_____

Class: _____

Baldivis Secondary College

Year 7 Mathematics

Test 2, 2018

Topic – Percentages, rates and algebra

/ ~~40~~ 43

%

Total Time: 45 min
Weighting: 11 %
Equipment: *Page of notes and a calculator*

Question 1 **4 marks**

Fill in the blanks using words from below:

Convert, fraction, number,

percentage, decimal, multiply, divide

To calculate the percentage of a number first I need to convert the percentage into a decimal. Then multiply the number by the decimal.

Question 2 **5 marks**

Evaluate the following:

a) 10% of 630 63

b) 50% of 78 39

c) 12% of 82 9.84

d) Polly has an attendance of 65%. There is 280 days of school a year, how many days did Polly attend school? 0.65×280 ✓

$= 182$ days ✓

Question 3 **3 marks**

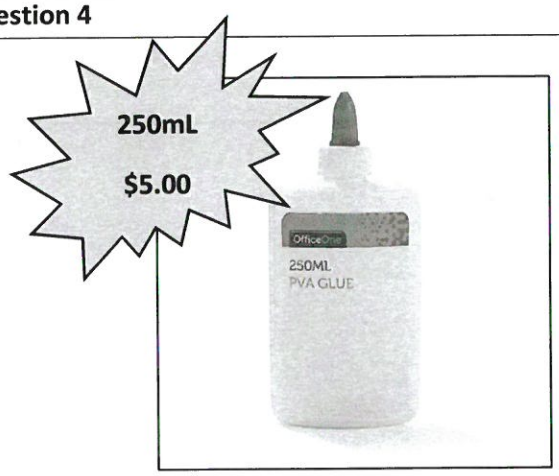
Simplify the following ratios:

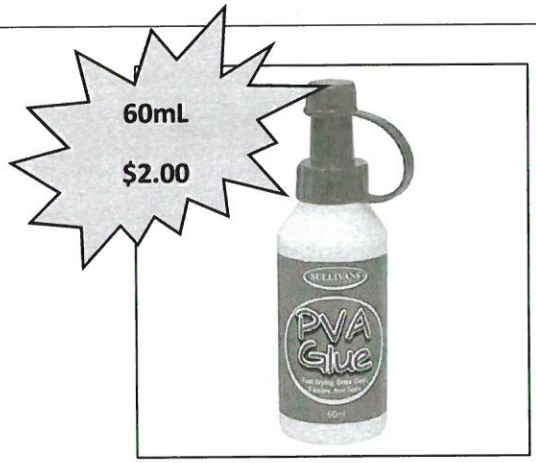
a) 14:35 2:5

b) 6:36 1:6

c) 50:75:150 2:3:6

Question 4 — **3 marks**





Which bottle of PVA glue is the best buy? Explain. (Show all your working out!)

250 : $5
50 : $1 ✓

↓ more for less ✓
∴ Best buy.

OR

60 : $2 ✓
30 : $1

250 : 5 ✓
1 : 0.02

60 : 2 ✓
1 : 0.03

↓
Best buy ✓

Question 9 — **4 marks**

For the following amounts state how much money you would pay if you were paying in cash:

a) $4.98 $5

b) $25.75 $25.75

c) $99.97 $99.95

d) $1.13 $1.15

13 marks

Question 5 ~~10 marks~~

Solve the following and state the value of the variable:

a) $x + 8 = 19$

$x = 11$ ✓

b) $100g = 9700$

$g = 97$ ✓

c) $\frac{p}{5} = 15$

$p = 75$ ✓

d) $5x + 8 = 23$

$5x = 15$ ✓

$x = 3$ ✓

e) $\frac{x}{2} + 11 = 26$

$\frac{x}{2} = 15$ ✓

$x = 30$ ✓

f) $\frac{3x}{5} + 6 = 15$

$\frac{3x}{5} = 9$ ✓

$3x = 45$ ✓

$x = 15$ ✓

g) $\frac{7(t+3)}{8} = 14$

$7(t+3) = 112$ ✓

$t + 3 = 16$ ✓

$t = 13$ ✓

Question 6 **3 marks**

Justine is paid \$10 an hour (***n***). During a particular week, she earns \$180.

a) Write an equation to describe this situation where ***n*** is the number of hours.

$10n = 180$ ✓

b) Solve the equation to find ***n*** and therefore the number of hours Justine worked.

$n = 180 \div 10$ ✓

$n = 18$ hours ✓

Question 7 — **3 marks**

Karim's weight is ***w*** kg and his brother is twice as heavy, weighing 70 kg.

a) Write an equation involving ***w*** to describe this situation.

$2w = 70$ ✓

b) Solve the equation to find ***w*** (Karim's weight).

$w = 70 \div 2$ ✓

$w = 35\text{kg}$ ✓

Question 8 — **4 marks**

Danny gets paid \$12 per hour, plus a bonus of \$50 for each week. In one week he earned \$410.

a) Write an equation to describe this, using ***n*** for the number of hours worked.

$12n + 50 = 410$ ✓

b) Solve the equation algebraically and state the number of hours worked.

$12n = 360$ ✓

$n = 360 \div 12$ ✓

$n = 30$ ✓

he worked for 30 hours ✓

End of Test ☺