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| Description: Description: S:\AdminShared\All Staff\1 College Logo's\Baldivis_Logo_colour.jpgName: | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | Date:*\_\_\_\_\_\_\_\_\_\_* | |
|  | **Year 11 Applications**  **Test 1, 2019**  **Topics – Percentages, Rates, Substitution and Formulae** | | | Time: 15 minutes  Marks: /14  Total Marks: /51 | |
| **Total Time:** | **15** minutes |  | | | |
| **Weighting:** | 5% of the year |  | | | |
| **Equipment:** | **Resource Free – Calculators are not permitted.**  SCSA Formula Sheet; 1 page notes (A4 one side, Unfolded) | | | | |

1. [1, 3 = 4 marks]

1. Find 10% of $220
2. Using your answer to part a) or otherwise find:

(i) 1% of $220

(ii) 5% of $220

(iii) 8% of $220

2. [1 mark]

The formula to approximate temperature in Fahrenheit (F) given the temperature in Centigrade (C) is

What is the temperature in degrees Fahrenheit if it is 5°C?

3. [1, 2 = 3 marks]

The formula for the area of a trapezium is where A is the area, *a* and *b* are the parallel sides and *h* is the perpendicular height.

1. Find the area of this trapezium:

*4cm*

*3cm*

*6cm*

1. If the area of a trapezium is 18 cm2 and the perpendicular height is 3cm, give ONE possible combination of lengths of the parallel sides.

6. [1, 1, 1 = 3 marks]

1. To increase an amount by 20% we multiply by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. To decrease an amount by 35% we multiply by\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. After a decrease of 6% in weight, a person weighs 63 kg. Which of the following calculations would you use to find the weight of the person *before* the increase?



7. [1, 1, 1 = 3 marks]

Given that calculate:

1. S, when D = 100 and T = 4
2. S, when D = 2 and T = 8

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| Description: Description: S:\AdminShared\All Staff\1 College Logo's\Baldivis_Logo_colour.jpgName: | | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | Date:*\_\_\_\_\_\_\_\_\_\_* | | |
|  | | **Year 11 Applications**  **Test 1, 2019**  **Topics – Percentages, Rates, Substitution and Formulae** | | | Time: 40 minutes  Marks: /37 | | |
| **Total Time:** | | **40** minutes |  | | | | |
| **Weighting:** | | 5% of the year |  | | | | |
| **Equipment:** | | **Resource Allowed – Calculators are permitted.**  SCSA Formula Sheet; 1 page notes (A4 one side, Unfolded) | | | | | |
| 1. [1, 1, 1, 2 = 5 marks:]  a) Hannah scored 26 out of 34 in a test. Write this as a percentage correct to one decimal place.    b) Find 72% of $860.  c) Increase $235 by 12%.    d) 27% of a town’s population is under 18. If there are 3024 under 18s, what is the population of the town? | | | | | |
| 2. | [3 marks] | | | | |

George, Annie’s brother, runs a hardware store. To sell a lawn mower that he has had in the store for 3 years he decides to sell it at a discount. George sells the lawn mower for $350. What was the original price for the mower?

3. [3 marks]

A taxi driver charges a set fee of $3.90 and then $1.60 per km.

1. Write down a formula for the cost, C, of a trip of *n* kilometres.
2. Use your formula to calculate the cost of a 20 kilometre trip.

4. [1, 1, 3 = 5 marks]

1. An electronics store increased the prices of all laptops by 7%. A laptop originally cost $995. What was the new price of the laptop after the price increase?
2. During the end of year sales, all stock was now discounted by 10%. What is the price of the laptop during the end of year sales?
3. Calculate the overall percentage change in price from the original price

5. [2 marks]

Assuming that the annual rate of inflation remains steady at 3.19%, what would the value of an item be in two years’ time if it costs $90 now?

6. [3 marks]

Fruits and vegetables do not incur GST. If the total shopping bill is $107 including GST, and fruits and vegetables amount to $72, what is the cost of the other items prior to adding GST? Give your answer correct to two decimal places.

7. [2 marks]

The sum of n terms in an arithmetic sequence is defined by the formula .

Given that n=20, a = 5, and d= 8, find the value of S.

8. [1, 1, 1, 2 = 5 marks]

Gustavo imports pottery from Europe. He buys a shipment of pottery for AUD 15 700. The exchange rate with the Australian dollar at the time was EUR 0.8143.

a) How much did it cost him in Euros?

b) The shipping costs were EUR 735. How much is this equivalent to in Australian dollars

c) Calculate the total cost, in AUD, of importing the pottery.

d) Gustavo wants to make a 60% profit. How much will he need to sell the shipment for?

9. [2 marks]

In a room with *n* people there are *H* different possible handshakes.

If *H* =  , find the number of people in a room if there were 276 possible handshakes.

10. [3 marks]

Mikayla buys an item which she sells to Shania making a profit of 35%. Shania sells it to Henrietta for $5600 and makes a loss of 23%. How much did Mikayla pay for the item?

11. [2, 2 = 4 marks]

Sara sells cars. She is paid a retainer of $40 000 a year and earns a 20% commission **on the profit** made on the sale of each car sold.

The car dealership where she works bought a Jeep for $21 000 wholesale.

1. Sara sold the Jeep for $32 500. What commission did Sara earn on the sale of the Jeep?
2. Sara would like to earn $64 000 a year. How many similar sales would she need to make in a year to achieve this figure?