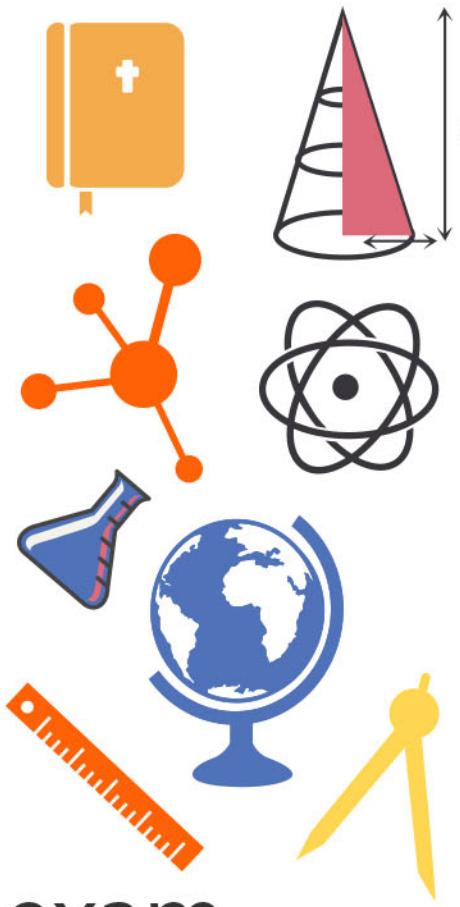

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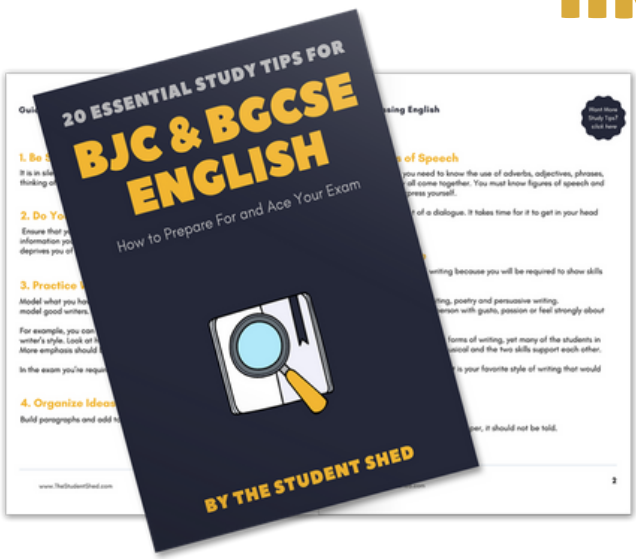

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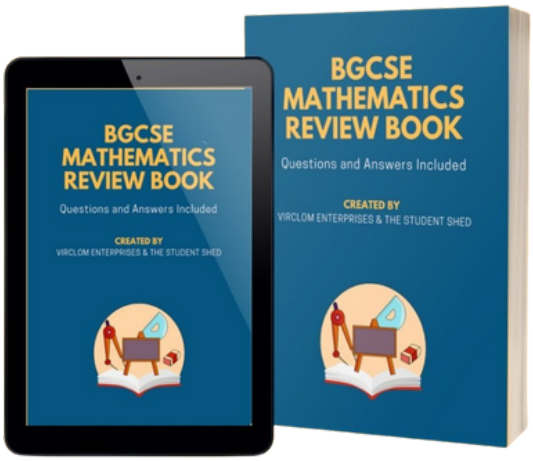

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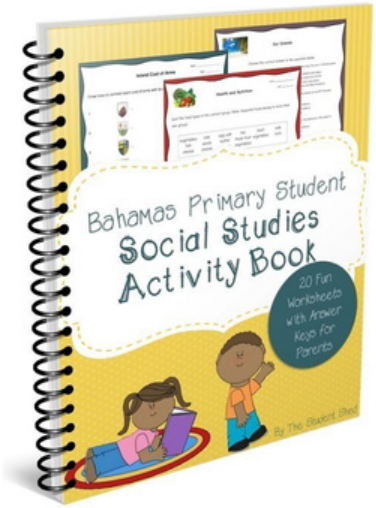

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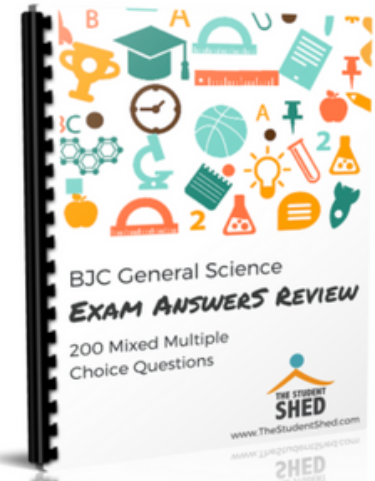

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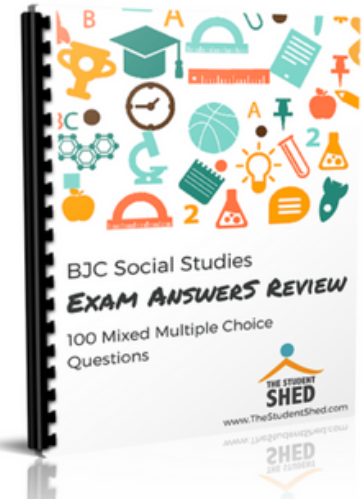

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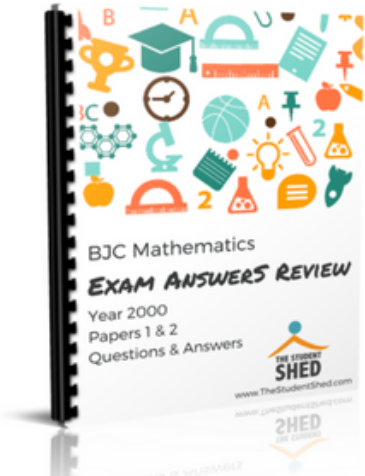

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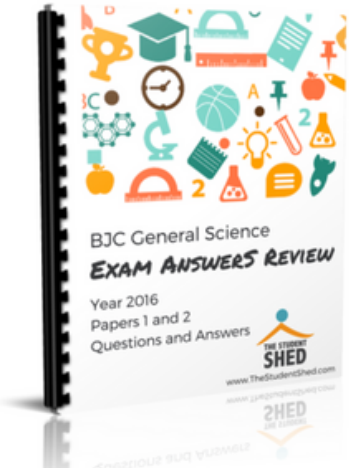

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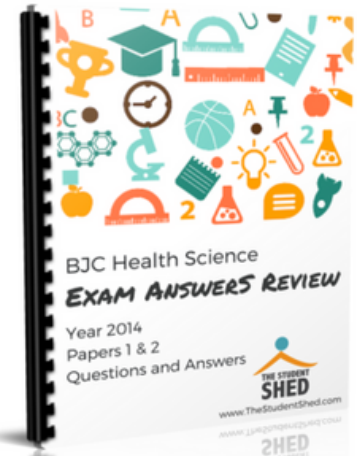

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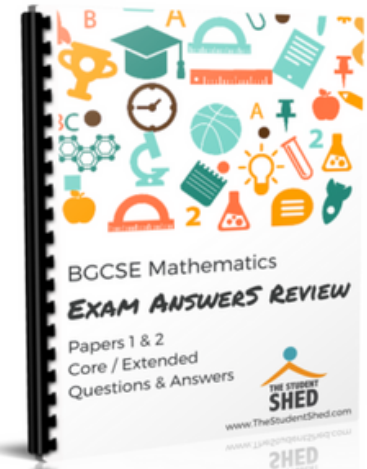

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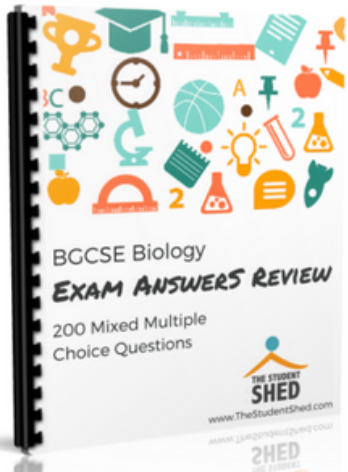

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BGCSE

School Number	Candidate Number
Surname and Initials	

MATHEMATICS

PAPER 1 (CORE/EXTENDED)

Tuesday **22 MAY 2001** 1.00 – 2.30 P.M.

Additional materials:
calculator
geometrical instruments

MINISTRY OF EDUCATION
NATIONAL EXAMINATIONS

BAHAMAS GENERAL CERTIFICATE OF SECONDARY EDUCATION

INSTRUCTIONS TO CANDIDATES

Do not open this booklet until you are told to do so.

Write your school number, candidate number, Surname and Initials in the spaces provided at the top of this page.

Answer **ALL** questions in the spaces provided for each question.

ALL working must be shown.

ALL working must be done in blue or black ink.

INFORMATION FOR CANDIDATES

Calculators **[NOT GRAPHING CALCULATORS]** may be used.

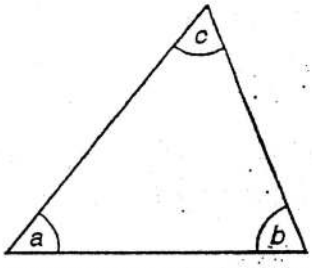
Geometrical instruments are required.

The mark for each question or part question is shown in brackets.[ ]

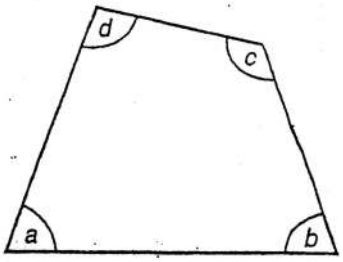
The total number of marks for this paper is 100.

This question paper consists of 18 printed pages and 2 blank pages.

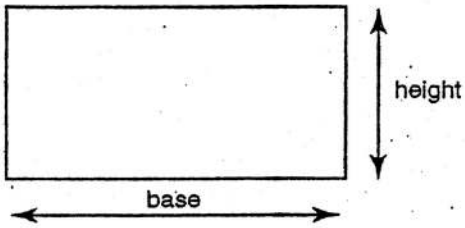
INFORMATION AND FORMULAE



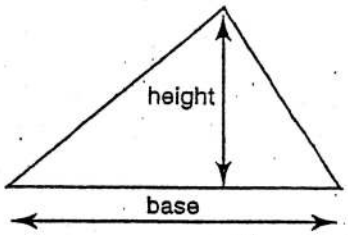
Angle sum of triangle
$a + b + c = 180°$



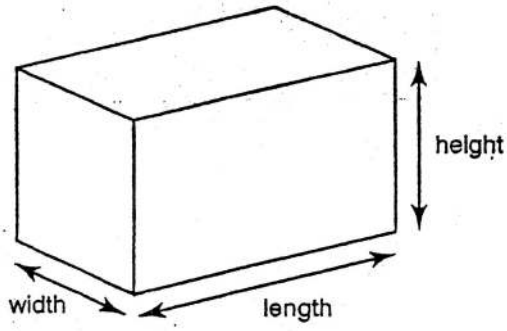
Angle sum of quadrilateral
$a + b + c + d = 360°$



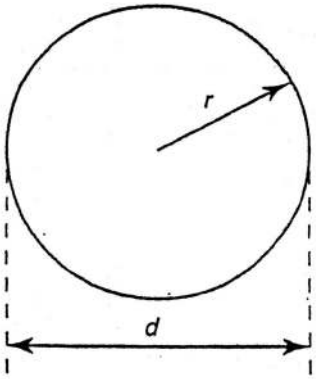
Area of rectangle = base × height



Area of triangle = $\frac{\text{base} \times \text{height}}{2}$



Volume of cuboid = length × width × height



Circumference of circle = $2\pi r$ or πd
Area of circle = πr^2

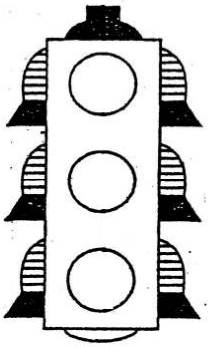
1. Write down the next two numbers in the following sequence,

1, 3, 6, 10, ____, ____.

Answer _____, _____, [2]

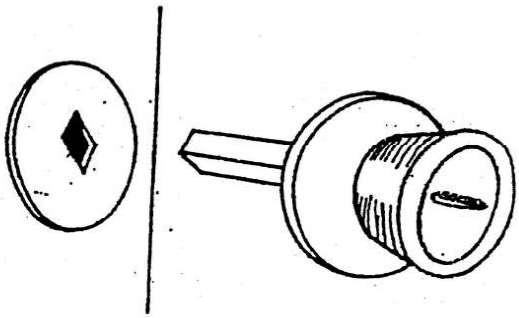
---

2. (a) Draw in the line(s) of symmetry on the traffic light below.



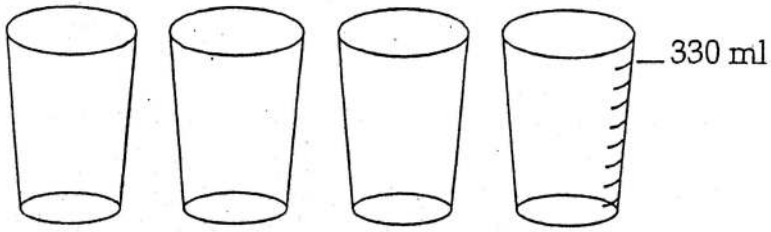
[1]

(b) The door handle below is fitted on a rod which is a square prism. This square prism fits through a square hole in the door.
How many ways can the door handle be inserted into the hole in the door?



Answer _____ [1]

3.



Mrs. Newton filled four glasses with milk. Each glass held 330 ml. How many litres of milk were used altogether?

Answer _____ litres [2]

---

4. (a) Use your calculator to work out the exact value of

$$\frac{32.45 \times 1.392}{0.6}$$

Answer _____ [1]

(b) Express the answer in (a) correct to

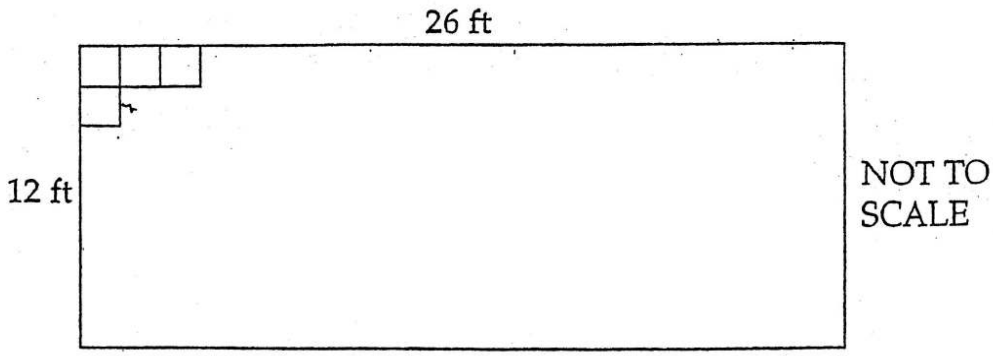
(i) two decimal places,

Answer _____ [1]

(ii) three significant figures.

Answer _____ [1]

8.



The rectangular driveway above measuring 26 feet by 12 feet is to be paved using square paving stones with sides of length 2 feet.

Calculate the number of paving stones

(a) that will fit along the 26 feet length,

Answer _____ [1]

(b) that will fit along the 12 feet width,

Answer _____ [1]

(c) that are needed to pave the whole driveway.

Answer _____ [2]

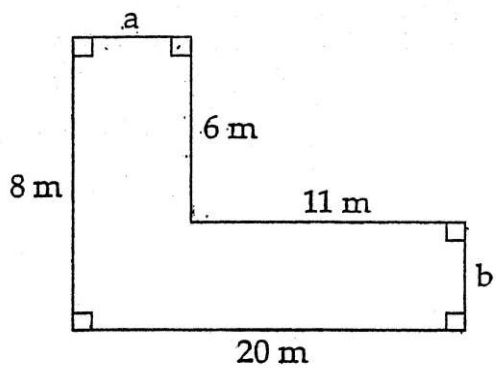
9. (a) Given that $I = \frac{PRT}{100}$, make T the subject of the formula.

Answer _____ [2]

(b) Calculate the value of T when $I = 60$, $P = 150$ and $R = 8$.

Answer _____ [2]

10.



NOT TO SCALE

(a) Calculate the length of side

(i) a,

Answer _____ m [1]

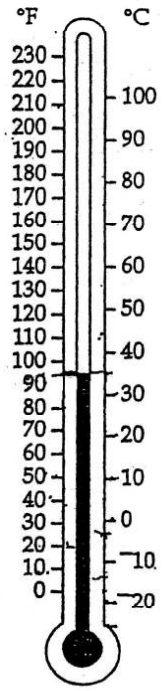
(ii) b.

Answer _____ m [1]

(b) Calculate the perimeter of this shape.

Answer _____ m [2]

11.



The diagram shows a thermometer marked in degrees Fahrenheit (° F) and degrees Celsius (° C).

(a) Give the Fahrenheit temperature reading indicated on the thermometer.

Answer _____ ° F [1]

(b) Give the Celsius temperature reading indicated on the thermometer.

Answer _____ ° C [1]

(c) The temperature drops by 80° F. Give the new

(i) Fahrenheit reading,

Answer _____ ° F [1]

(ii) Celsius reading.

Answer _____ ° C [1]

12. Using the given fractions, $3\frac{1}{6}$ and $\frac{1}{2}$,

(a) (i) change the mixed number fraction to an improper fraction,

Answer _____ [1]

(ii) state the Lowest Common Denominator (LCD) of the fractions.

Answer _____ [1]

(b) Use the L.C.D. to find the sum of the fractions.

Answer _____ [2]

(c) Write your answer to (b) as a fraction in its lowest terms.

Answer _____ [1]

---

13. (a) Simplify

$$\frac{8a^2 \times a^4}{2a}$$

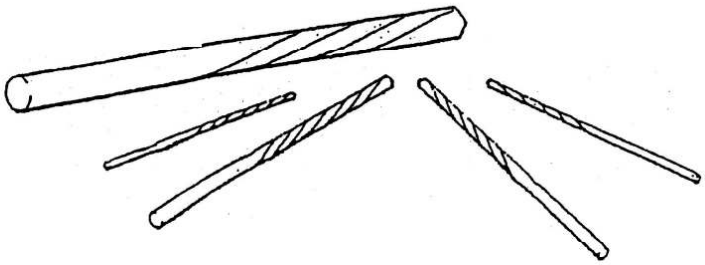
Answer _____ [2]

(b) Evaluate

$$\left(\frac{1}{3}\right)^{-2} + (6)^0$$

Answer _____ [3]

14.



The diagram shows a set of measuring drill bits. In the set, their sizes are $\frac{3}{8}, \frac{1}{2}, \frac{3}{16}, \frac{1}{4}, \frac{5}{16}$ inches.

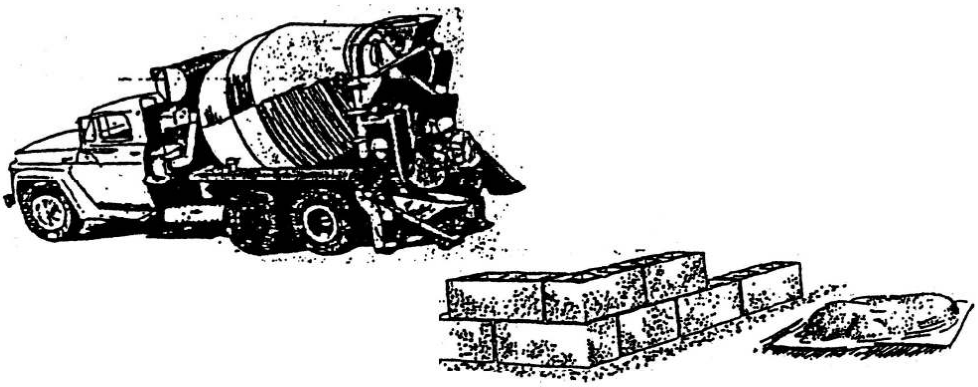
(a) List the sizes of the bits in ascending order of size.

Answer _____ [4]

(b) Write down the size of the third largest bit in the set.

Answer _____ inch [1]

15.



A mortar mix recommended for making concrete building blocks, uses cement, lime and sand in the ratio 1 : 2 : 9.

Calculate the amount of

(a) cement in the mortar mix of 216 kg.

Answer _____ [2]

(b) sand used when 20 kg of cement is used.

Answer _____ [1]

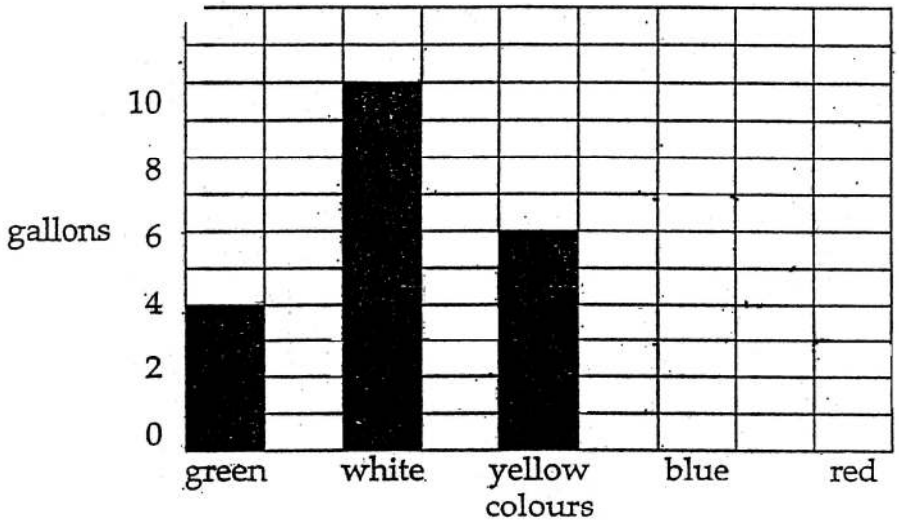
(c) lime used when 117 kg of sand is used.

Answer _____ [2]

16. The chart below lists the colours and number of gallons of paint sold at Rainbow Paint Store.

(a) Use it to complete the bar graph below.

COLOUR	GALLONS
Green	4
White	10
Yellow	6
Blue	7
Red	3



[2]

Use the graph to help you answer the following questions:

(b) How many gallons of paint were sold?

Answer _____ gallons [1]

One gallon of paint costs $12.96.

(c) Calculate the total amount of money made from the sales.

Answer $_____ [2]

17.

Refrigerator

A refrigerator valued at $850 is imported from abroad. Stamp tax is charged at 2%.

(a) Calculate the amount of the stamp tax.

Answer $_____ [2]

Import tax on the refrigerator is $102.

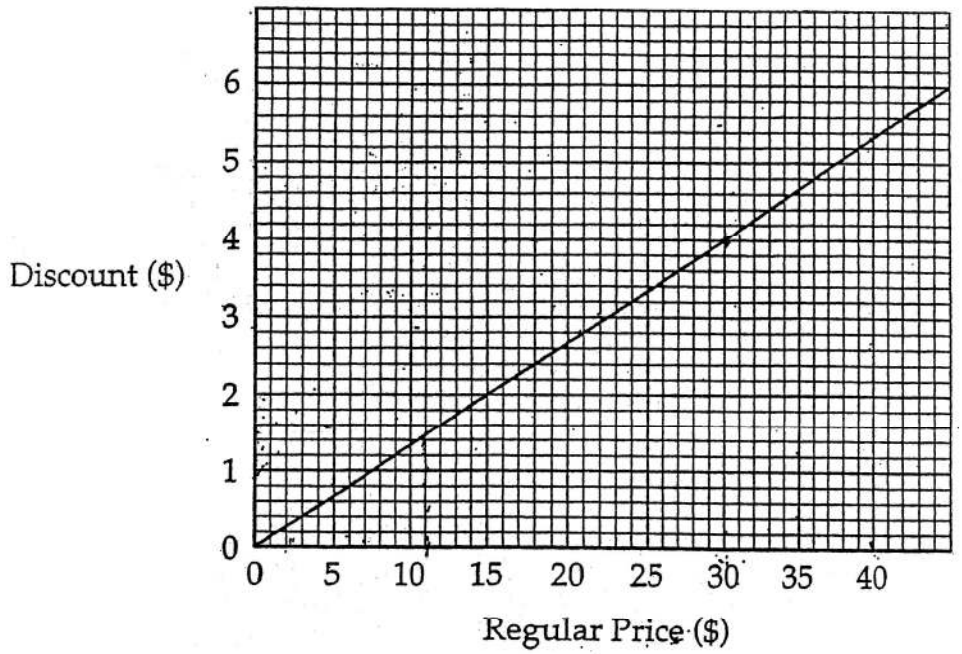
(b) Calculate the percentage charged on the original value of the refrigerator as import tax.

Answer _____% [2]

(c) Calculate the total cost of the refrigerator.

Answer $_____ [2]

18.



The graph above is used to calculate the amount of discount given in a sale. Use it to answer the following questions.

(a) Write down the discount when the regular price is $30.

Answer $_____ [1]

(b) Give the regular price when the discount is $1.50.

Answer $_____ [1]

The regular price is $100.

(c) (i) Calculate the amount of the discount.

Answer $_____ [2]

(ii) Calculate the percentage discount.

Answer _____ % [2]

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