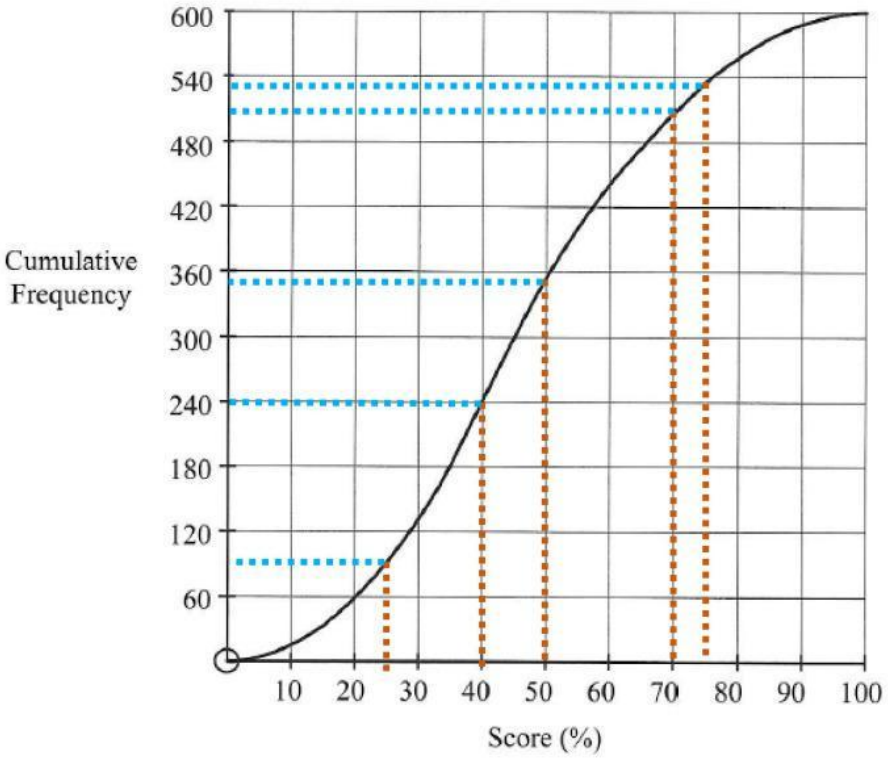
10.



The graph shows the cumulative frequency curve of the scores of 600 candidates in a College Placement exam.

From the graph, estimate

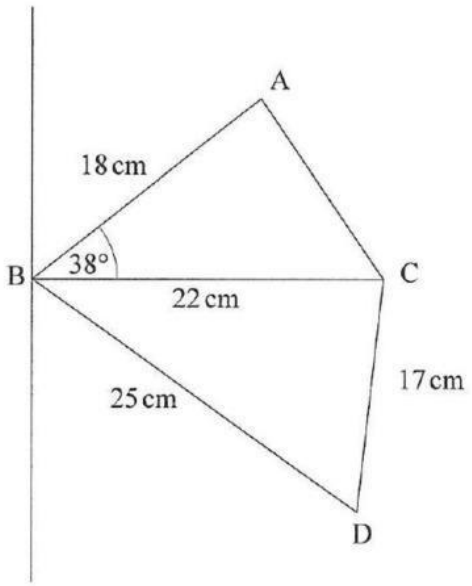
(a) the median mark, [1]

(b) the lower quartile, [1]

(c) the number of candidates who scored 40% or more, [2]

(d) the pass mark if only 90 candidates were accepted. [2]

10.



NOT TO SCALE

(a) Calculate the area of triangle ABC. [3]

LIVEWORKSHEETS

Formulae After Substituting

Area =

Area =

(b) Calculate the size of angle DBC. Give your answer to one decimal place. [5]

Formulae after substituting

——— = ———

(c) Calculate the shortest distance from C to the line BD. [4]

Trig Ratio Needed =

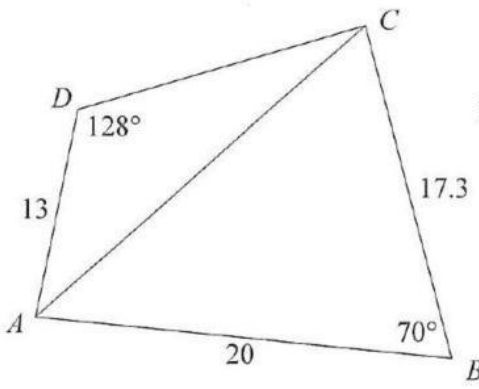
Trig Formulae

= ———

Shortest Distance =

10. In the quadrilateral $ABCD$, $AB = 20$ cm, $AD = 13$ cm and $BC = 17.3$ cm.

Also, $\angle B = 70°$ and $\angle D = 128°$.



Calculate,

(a) correct to 3 d.p., the length of AC, [4]

Formulae After Substituting

AC^2 =

AC =

(b) to the nearest whole number, $\angle ACD$. [4]

Formulae after substituting

LIVEWORKSHEETS

13

= _____

Angle ACD =

10. A rectangular plot of land in the Cool Breeze community has a width of x m and a length of $(x + 2)$ m.

(a) Write an expression for the area of this plot in terms of x. [1]

Area Expression =

A larger rectangular plot of land in the Sunny Side community has a length of $2x$ m and a width of $(x - 3)$ m.

(b) Write an expression for the area of this plot in terms of x. [1]

Area Expression =

The Sunny Side plot is 240 m^3 larger than the Cool Breeze plot.

(c) Write an equation to represent this information and solve for x. [5]

Equation of Difference

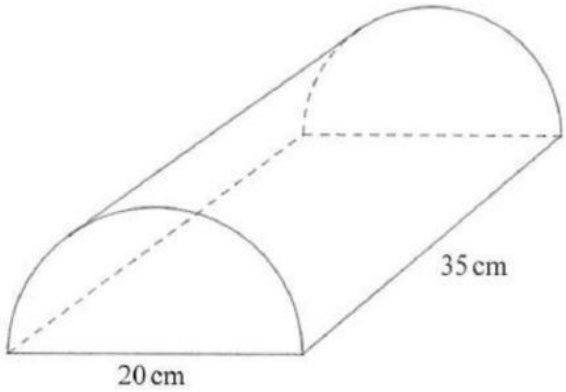
= 240

(d) Find the length and width of the Sunny Side plot. [2]

Length =

Width =

10.



NOT TO SCALE

The diagram shows a solid half-cylinder of diameter of 20 cm and length 35 cm.

(a) Calculate the total surface area of the half-cylinder. [5]

Arc Length of Semi Circle =

Arc Length of Two Semi Circles =

Rectangular Area of Curved Roof =

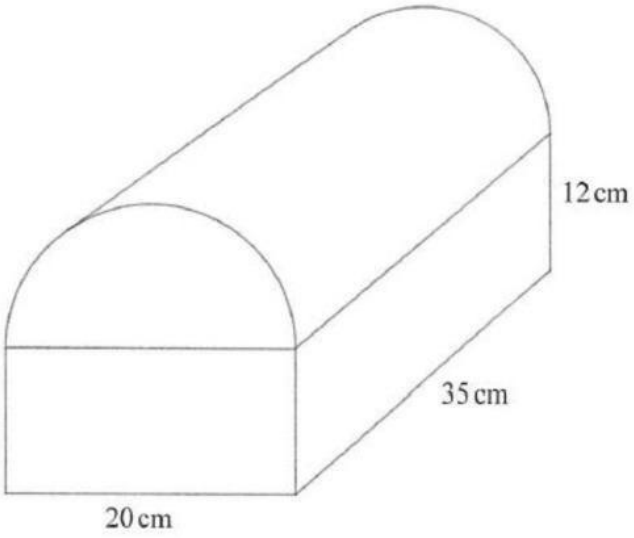
LIVEWORKSHEETS

Surface Area of a Semi Circle =

Surface Area of Two Semi Circles =

Total Surface Area =

The half-cylinder is glued to a cuboid of length 35 cm, width 20 cm and height 12 cm as shown below.



NOT TO SCALE

(b) Calculate the total volume of the solid formed. [4]

Volume of Curved Dome =

Volume of Rectangular Prism =

Total Volume of Solid =

10. Functions f and h are defined as $f(x) = \frac{3+x}{7}$ and $h(x) = 2x + 3$

Find

(a) $h(4)$, [1]

(b) $f(h(x))$, [2]

(c) x, where $f(x) = h(x)$, [4]

(d) $h^{-1}(x)$. [2]

10. The points $(2, y)$ and $(3, 7)$ are on a straight line. If the gradient of the line is 4, find the value of y. [3]

Horizontal Distance =

LIVEWORKSHEETS

If slope is 4, Vertical Distance =

y =

LIVEWORKSHEETS