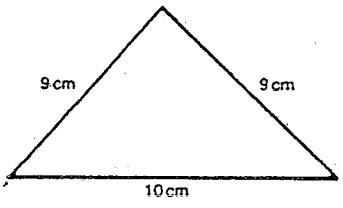
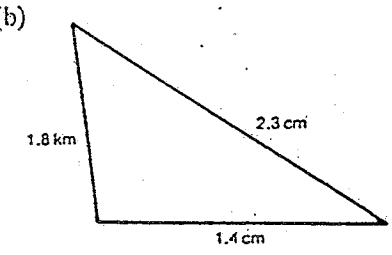
Worksheet 1 – Area & Perimeter

1 Find the perimeters of these triangles:

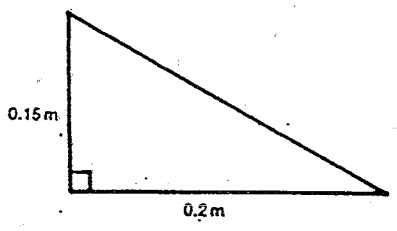
(a)



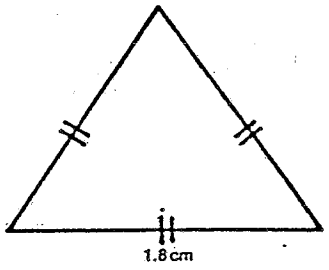
(b)



(c)

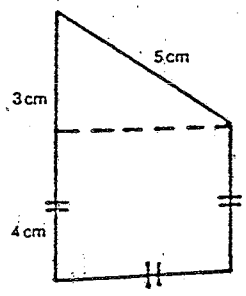


(d)



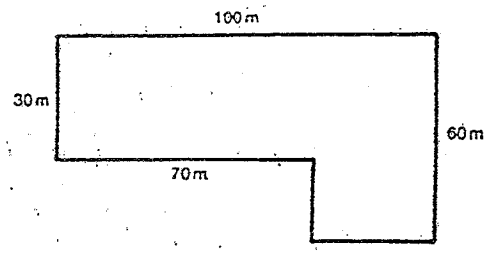
2 (i) Find the perimeters of these figures: (ii) What are their areas?

(a)



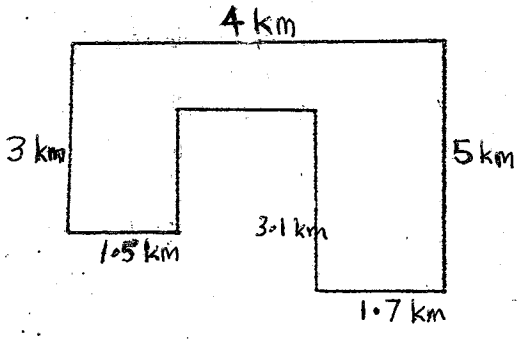
P= _____ A= _____

(b)



P= _____ A= _____

(c)



P= _____ A= _____

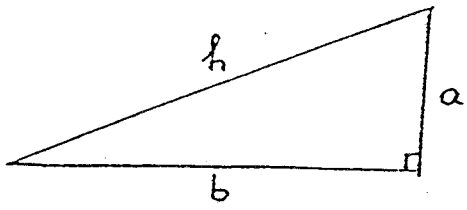
ANSWERS 1 (a) 28 cm (b) 5.5 cm (c) 0.6 m (d) 5.14 cm

2 (a) P = 20 cm, A = 22 cm² (b) P = 320 cm, A = 3900 m² (c) P = 20.2 km, A = 14.52 km²

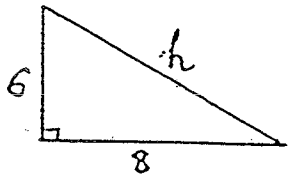
PYTHAGORAS

Worksheet 2

In a right angle triangle, the side opposite the 90° is called the "hypotenuse" Call it "h" then: $\boxed{h^2 = a^2 + b^2}$



Example 1: (– Find hypotenuse)

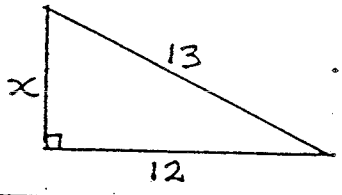


$\boxed{h^2 = 6^2 + 8^2}$

$h^2 = 100$

$h = 10$

Example 2: (– find short side)



$13^2 = x^2 + 12^2$

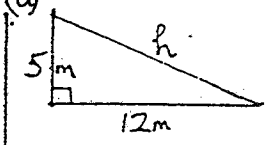
$\therefore \boxed{x^2 = 13^2 - 12^2}$

$x^2 = 25$

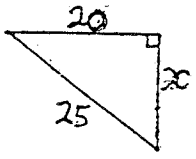
$x = 5$

(3) Use Pythagoras' Rule to find the lengths of sides marked x or h :–

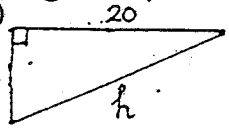
(a)



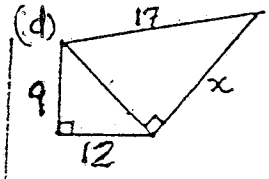
(b)



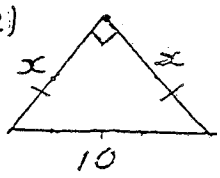
(c)



(d)



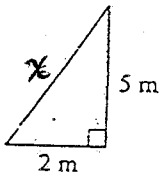
(e)



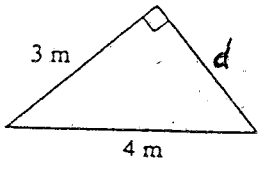
(4) Exercises

Evaluate the pronumerals in the following:

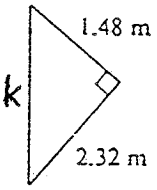
a)



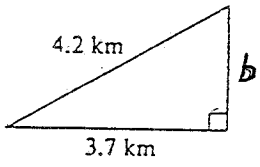
b)



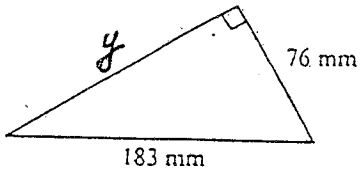
c)



d)



e)



f) A rectangle has sides of 4.38 m and 6.27 m. Find the length of the diagonal.

g) A rectangle has one side of length 27.3 mm and a diagonal length of 32.4 mm. Find the length of the other side.

h) Find the length of the diagonal of a square that has sides of length 837 mm.

ANSWERS

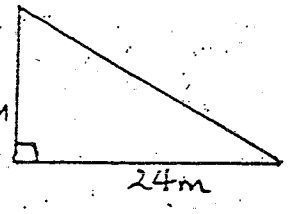
3 a) $h = 13$
b) $x = 15$
c) $h \approx 24.4$
d) $x = 8$
e) $x = 5\sqrt{2} \approx 7.07$

4 a) $x \approx 5.39$
b) $d \approx 2.65$
c) $k \approx 2.75$
d) $b \approx 1.99$
e) $y \approx 166.5$
f) $d \approx 7.65$m
g) $s \approx 17.45$mm
h) $d \approx 1183.7$mm

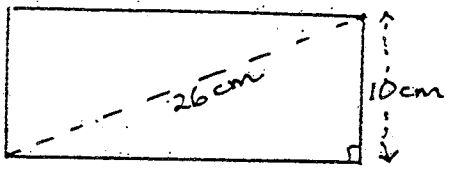
AREAS & VOLUMES – Worksheet 3

Quest ① Find (a) the Area & (b) The Perimeter of.....

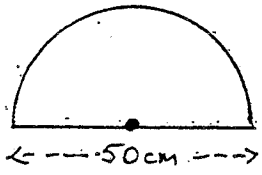
(i)



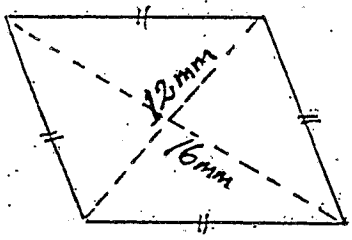
(ii)



(iii)

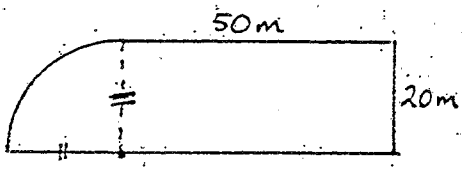


(iv)

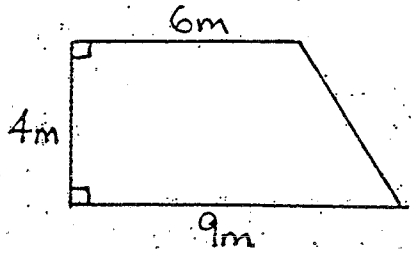


diagonals of length 12mm and 16mm

(v)

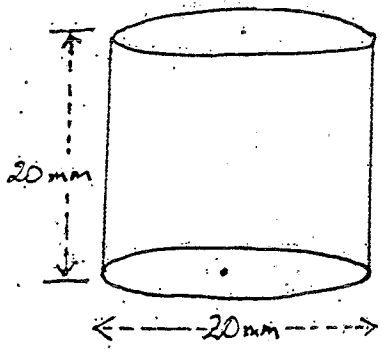


(vi)

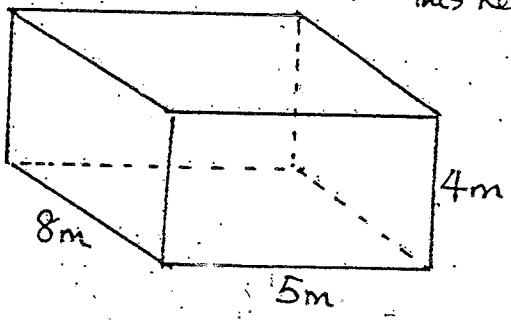


Quest ②

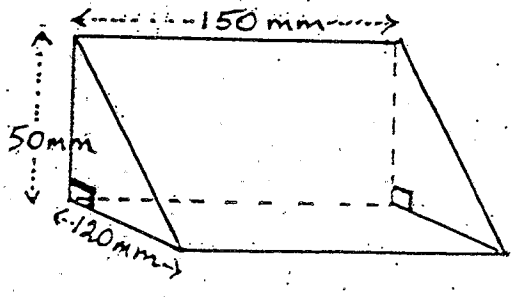
(a) Find the Volume of this Cylinder



(b) Find the Total Surface Area of this Rectangular Prism:



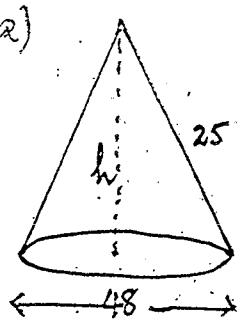
(c) Find (i) the volume
(ii) total Surface Area
of the Triangular Prism:-



Question (3)

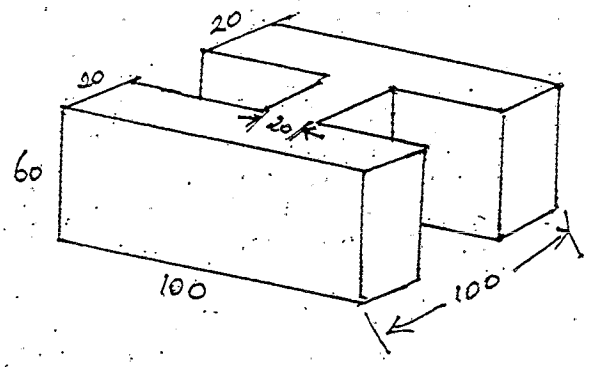
Find the Volume: (all units are mm)

(a)



[Hint: find h first]

(b)



(c) Find the surface Area in figure (b) ↑.

d) Challenge: - find the surface area in 3(a) **.

ANSWERS

Q1

(i) $A = 84\ m^2$, $P = 56\ m$ (ii) $A = 240\ cm^2$, $P = 68\ cm$ (iii) $A = 312.5\pi\ cm^3$, $P = 25\pi + 50\ cm$ (iv) $A = 96\ mm^2$, $P = 40\ mm$

(v) $A = 100\pi + 1000\ m^2$, $P = 10\pi + 1040\ m$ (vi) $A = 30\ m^2$, $P = 24\ m$

Q2 (a) $V = 2000\pi\ mm^3$

(b) $SA = 184\ m^2$

(c) (i) $V = 450000\ mm^3 = 450\ cm^3$

(ii) $SA = 51000\ mm^2 = 510\ cm^2$

Q3 a) $V = 1344\pi\ mm^3$ b) $V = 312\ cm^3$

c) $SA = 44000\ mm^2$ d) $SA = 1176\pi\ m^2$