Measure- One dimensional- Sample Questions

1.   Complete this table:

	Meters	Centimeters	Millimeters	Kilometers
2 meter sticks	2	200	2000	.002
Mo's height	1.83 m	183	1830	.00183
Width of Pencil	.0065	.65 cm	6.5	.0000065
Distance to admin	167 m	16700 cm	167000	.167

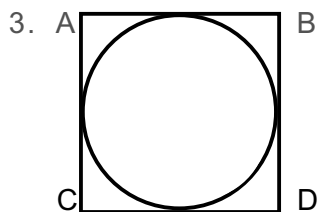2.   Find the perimeter. (Assume all angles that appear right are right.)
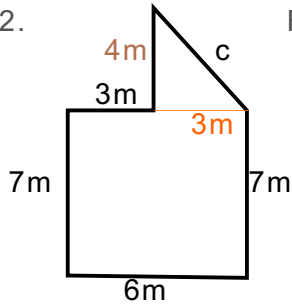
We need to find c:

$(3m)^2 + (4m)^2 = c^2$

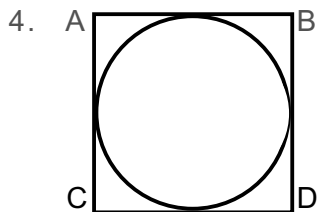$25\ m^2 = c^2$

c = 5m

P = 7m + 6m + 7m + 3m + 4m + 5m = 32 m

3.   Assume a circle is inscribed in a square ABCD as shown.
If the square's perimeter is 15 inches,
what is the total length of the curve drawn?

P of □ = 15 in ⟹ AB = 15/4 in ⟹ D of ⊙ = 15/4 in

So C of ⊙ = π•diameter = π (15/4 in)

And Total Length of Curve = 15 in + π (15/4 in)

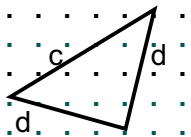4.   Assume a circle is inscribed in a square ABCD as shown.
Assume the circle has circumference 6πm.
What is the perimeter of the square?

C = 6πm = π (Diameter) ⟹ D = 6m ⟹ Side of □ = 6m

P of square = 4 • 6m = 24m

*The circle and square
 are equal in width !*

5.   Find the perimeter of the polygon shown.

We use the pythagorean theorem to find the lengths of the three sides.

$c^2 = 3^2 + 5^2$ $d^2 = 1^2 + 4^2$

c = sqrt(34)   d = sqrt(17)

So P = √34 + 2√17 units

*We notice that two sides of the △ are
hypotenuses of identical 1-by-4 right △s*

6.   What is the perimeter of a sector with central angle 40° from a circle of radius 10cm?

The circumference of the entire circle is   C = 20 π cm

The length of an arc of a 40° sector is one-ninth* of that,
since the arc is 1/9 of the complete circle.

¹⁄₉ of C   10cm

10cm

So the Perimeter of the sector is $\frac{20\ π}{9}$ cm   + 20cm
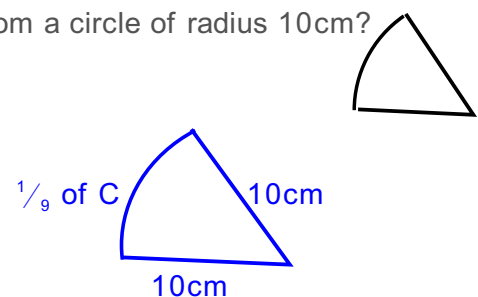
* A 360° arc would be the whole circle; and $^{40°}/_{360°} = {}^{40}/_{360} = {}^{1}/_{9}$.