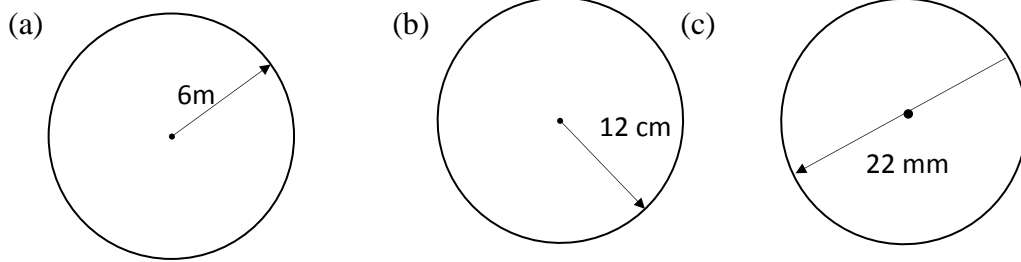


National 4 Mathematics: Homework 2

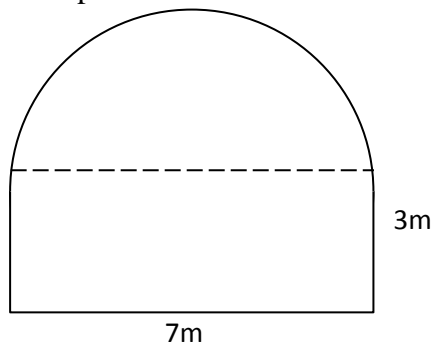
§ 1 Area and Circumference of Circles

- 1** Calculate (i) the circumference and (ii) the area of the following circles



- 2** A circular cake stand has a diameter of 30cm. Calculate the area of the stand.

- 3** Calculate the perimeter the shape below.



§ 2 Algebra and Common Factors

- 1** Simplify:

(a) $4x + 6y - 7x + 10y$ (b) $5a + 4c - 14a$ (c) $2x - 5y + 3y$

- 2** Evaluate each of the following expressions when $a = 2$, $b = -4$ and $c = -3$.

(a) $6a + 2b$ (b) $a^2 + ac$ (c) abc (d) $ac + ac$

- 3** Expand the following:

(a) $3(x - 1)$ (b) $2(a - 6)$ (c) $5(2x - 1)$ (d) $8(3p - 4)$

- 4** Expand the following:

(a) $3(x - 1) + 3x$ (b) $2(a + 3) - 9$ (c) $4(x - 5) - 6x$

- 5** Factorise:

(a) $3x - 15$ (b) $5y + 35$ (c) $8a + 48$ (d) $18 + 6t$

National 4 Mathematics: Homework 2

§ 3 Mixed

1 Solve each of the following equations.

(a) $3x + 8 = 2$

(b) $2t + 3 = -7$

(c) $4m + 1 = -3$

(d) $4y - 7 = -3$

(e) $6a - 1 = -13$

(f) $7d - 2 = -2$

(g) $5y = 3y - 16$

(h) $3a = 20 - 2a$

(i) $7d = -2d - 18$

(j) $7h + 4 = 4h - 5$

(k) $12p - 6 = 8p - 2$

(l) $8x + 5 = 14 - x$

(m) $2p + 3 = p - 4$

(n) $7h - 6 = 2h - 21$

(o) $5x + 9 = 8x + 33$

(p) $4y - 7 = 8y - 23$

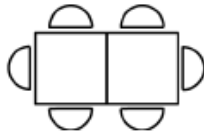
(q) $7k + 2 = 4k - 25$

(r) $16a - 4 = 6a - 34$

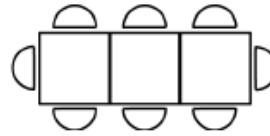
2 In a restaurant, tables and chairs are set out as shown below.



1 table



2 tables



3 tables

Complete this table.

Number of tables	1	2	3	4	5	6		13
Number of chairs	4	6						

3 Renvi is tiling her bathroom floor.

She needs 15 boxes of tiles.

The price of one box is £23.

The tile shop has a special offer of **“buy one box get one box half price”**.

Renvi makes use of the special offer.

How much does Renvi pay for 15 boxes of tiles?



4 Calculate:

a) 20 % of £30

b) 50 % of 11 kg

c) 15 % of 200

d) 22 % of £4