Revision & Practice Worksheet 22

A Cartesian plane: The general equation of a straight line

Find the gradient (m) and y-intercept of these lines from their equations:

1 $y = 4x - 2$	**2** $y = -\frac{1}{2}x + 3$	**3** $y = 1\frac{1}{4}x - 3$
4 $5y = 2x + 3$	**5** $6y = x - 3$	**6** $2y = -3x + 2$
7 $y - x = 3$	**8** $y - 2x = 4$	**9** $2y + x = 6$
10 $5y - x = 6$	**11** $x + y = 7$	**12** $y - x - 1 = 0$
13 $y - 2x + 3 = 0$	**14** $2y - x + 1 = 0$	**15** $3y + x - 1 = 0$

B Cartesian plane: Shifting parabolas

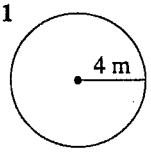
For each of the following, draw a set of axes with a sketch of the curve $y = x^2$. Show and describe how each of these parabolas are shifted showing important points:

1 $y = x^2$ $y = -2x^2$	**2** $y = x^2$ $y = 3x^2$	**3** $y = x^2$ $y = (x + 2)^2$
4 $y = x^2$ $y = (x - 2)^2$	**5** $y = x^2$ $y = \frac{1}{2}(x + 1)^2$	**6** $y = x^2$ $y = -2(x + 2)^2$
7 $y = x^2$ $y = -(x + 1)^2 + 2$	**8** $y = x^2$ $y = (x + 3)^2 - 4$	**9** $y = x^2$ $y = 2(x + 3)^2$
10 $y = x^2$ $y = -4(x - 1)^2 + 2$		

C Measurement: Circumference and area of circles

Find the area and perimeter of each of these figures. Give answers to 2 decimal places.

1



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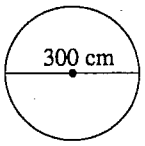

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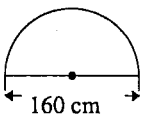

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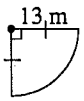

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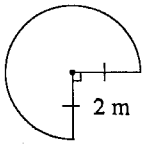
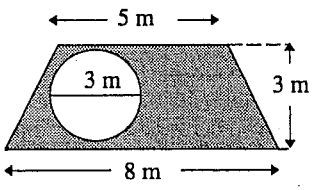


D Measurement: Composite areas

Find the shaded areas giving answers to 2 decimal places:

1



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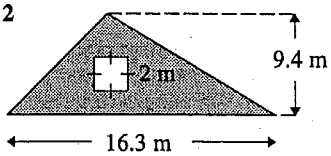

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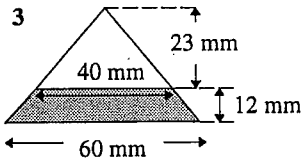
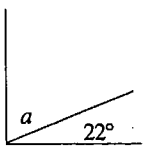


E Geometry: Complementary, supplementary and vertically opposite angles

Find the value of the pronumerals:

1



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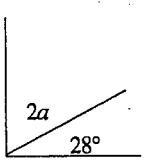

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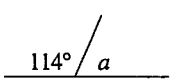

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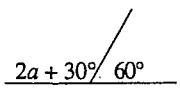

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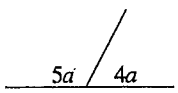

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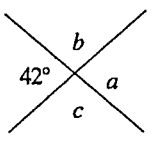

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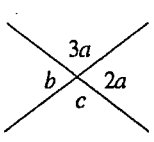

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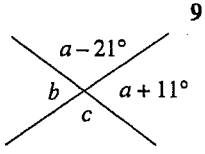

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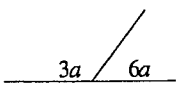

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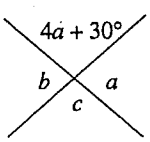


Worksheet 22

A **1** $m = 4, c = -2$ **2** $m = -\frac{1}{2}, c = 3$

3 $m = 1\frac{1}{4}, c = -3$ **4** $m = \frac{2}{5}, c = \frac{3}{5}$

5 $m = \frac{1}{6}, c = -\frac{1}{2}$ **6** $m = -1\frac{1}{2}, c = 1$

7 $m = 1, c = 3$ **8** $m = 2, c = 4$

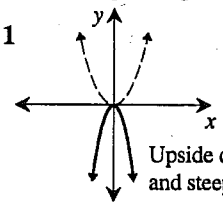
9 $m = -\frac{1}{2}, c = 3$ **10** $m = \frac{1}{5}, c = 1\frac{1}{6}$

11 $m = -1, c = 7$ **12** $m = 1, c = 1$

13 $m = 2. c = -3$ **14** $m = \frac{1}{2}, c = -\frac{1}{2}$

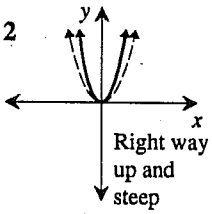
15 $m = -\frac{1}{3}, c = \frac{1}{3}$

B **1**



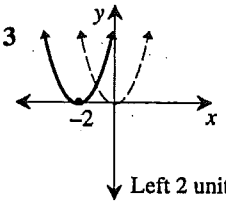
Upside down and steep

2



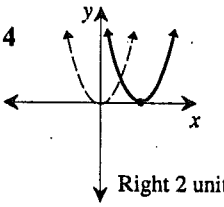
Right way up and steep

3



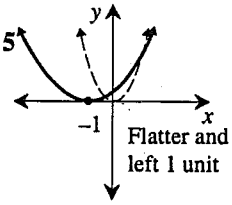
Left 2 units

4



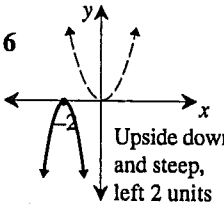
Right 2 units

5



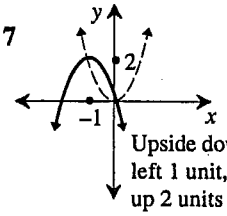
Flatter and left 1 unit

6



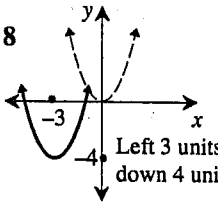
Upside down and steep, left 2 units

7



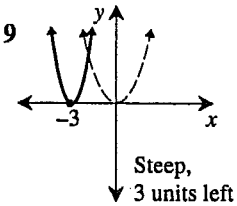
Upside down, left 1 unit, up 2 units

8



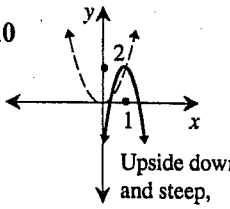
Left 3 units, down 4 units

9



Steep, 3 units left

10



Upside down, and steep, right 1 unit, up 2 units

C **1** Area = 50.27 m², perimeter = 25.13 m

2 Area = 70 650.83 cm², perimeter = 942.48 cm

3 Area = 10 053.10 cm², perimeter = 411.33 cm

4 Area = 132.73 m², perimeter = 46.42 m

5 Area = 9.43 m², perimeter = 13.42 m

D **1** 12.43 m² **2** 72.61 m² **3** 590 mm²

E **1** $a = 68°$ **2** $a = 31°$

3 $a = 66°$ **4** $a = 45°$

5 $a = 20°$ **6** $a = 42°, b = c = 138°$

7 $a = 36°, b = 72°, c = 108°$

8 $a = 95°, b = 106°, c = 74°$

9 $a = 20°$

10 $a = 30°, b = 30°, c = 150°$