metatutor

1.
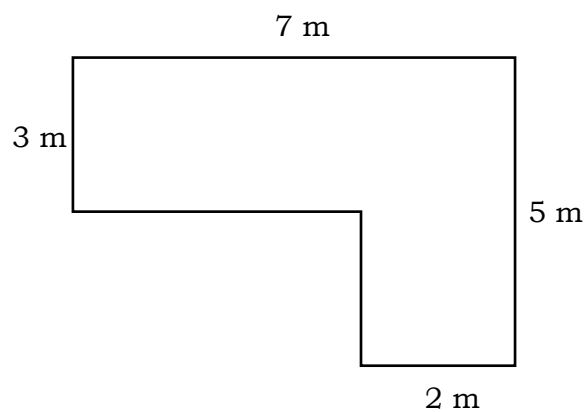(a) Factorise $x^2 - 2x - 15$

(1)

(b) Solve $x^2 + 5x = 14$

(2)

2.
Andrea is putting tiles on her kitchen floor.
60% of the floor has already been tiled.
Tiles have an area of 2 m² and cost £2.49 each.
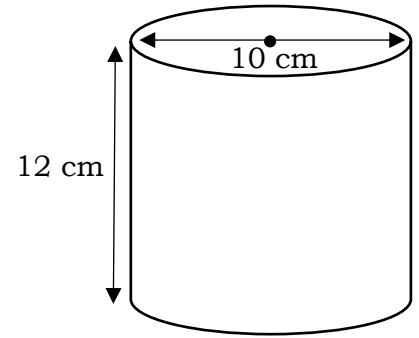Below is a plan of Andrea's kitchen floor.

Work out how much it will cost Andrea to buy the tiles she needs to complete the job.

(5)

3.
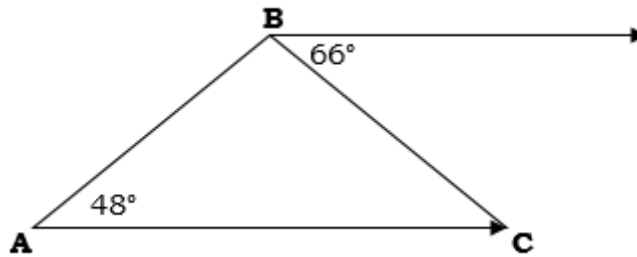Pictured to the right is a cylinder.

Find the surface area of the cylinder, in terms of π.

10 cm

12 cm

(4)

4.
Show that ABC is an isosceles triangle. Give reasons for each stage of your working.

B
66°

48°
A
C

(3)

5.
Ken, Lewis and Mandy drove from Bristol to Cardiff along the same route.
The distance from Bristol to Cardiff is 40 miles.
Lewis drove at an average speed of 48 miles per hour.
Ken's journey took twice as long as Lewis's journey.
Mandy's journey took 20 minutes less than Ken's journey.

Work out Mandy's average speed, in miles per hour.

(5)