

# m3 = 10 days to go!

- 19 Jack is a pupil at Northfield Boys School. He wants to know how many times a month the people in his town go to a football match. He asks 600 pupils in his school.

Give two reasons why Jack's sample may not be representative of the people in his town.

Reason 1 He is only asking boys. [1]

Reason 2 He is only asking people the same age as himself [1]

- 5 Work out the value of  $5x + 3y$  when  $x = -4$  and  $y = 2$

$$\begin{aligned} &5x + 3y \\ &5(-4) + 3(2) \\ &-20 + 6 \end{aligned}$$

Answer -14 [2]

- 19 (a) Expand  $(3x - y)^2$

$$\begin{aligned} &(3x - y)(3x - y) \\ &9x^2 - 3xy - 3xy + y^2 \\ &9x^2 - 6xy + y^2 \end{aligned}$$

CRAB CLAWS  
or F.O.I.L.

Answer  $9x^2 - 6xy + y^2$  [2]

- (b) Factorise  $x^2 - 25$

Factorise  
Factories make brackets  
 $x^2 - 5^2$   
 $(x + 5)(x - 5)$

DOTS

Answer  $(x + 5)(x - 5)$  [1]

11 Calculate the area of a circle with diameter 8 cm.

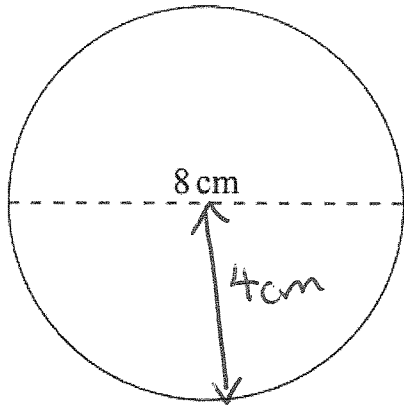


diagram not drawn accurately

$$A = \pi r^2$$

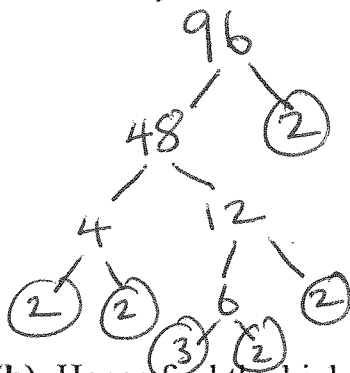
$$A = \pi \times 4^2$$

$$A =$$

Answer 50.3 cm<sup>2</sup> <sup>1 d.p.</sup> [3]

14 (a) Write 96 as a product of prime factors.

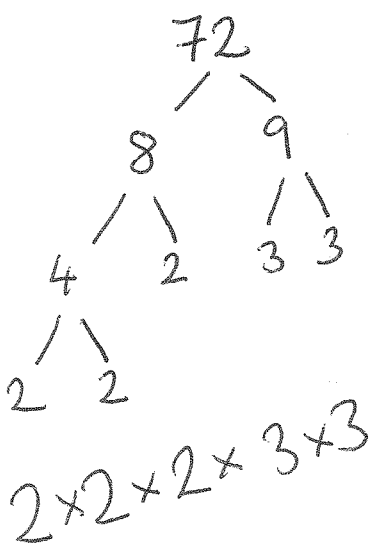
Give your answer in index notation.



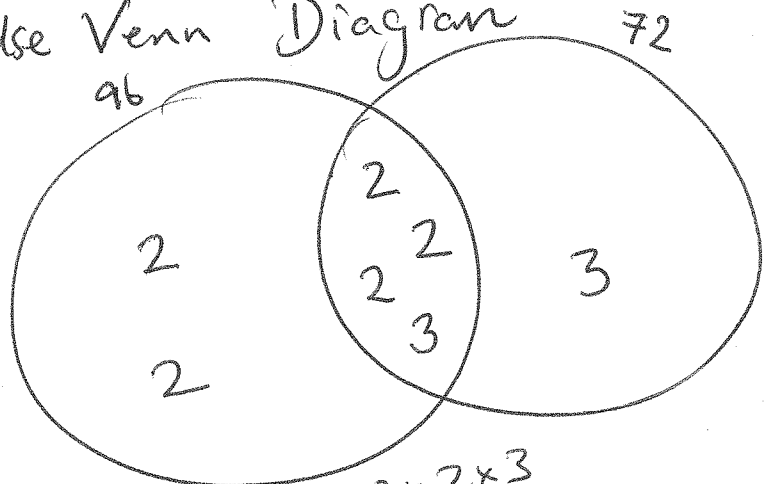
$$2 \times 2 \times 2 \times 2 \times 2 \times 3$$

Answer 2<sup>5</sup> × 3 [3]

(b) Hence find the highest common factor of 96 and 72



Use Venn Diagram



$$HCF = \text{overlap} = 2 \times 2 \times 2 \times 3$$

Answer 24 [2]

LCM = all of it