

The histogram shows the weights of 700 dogs.

Find an estimate of the percentage of the dogs that weighed over 20kg?

$$\frac{144}{700} \times 100 = 20.571\%$$

Calculate an estimate of the median

$$350^{\text{th}}$$

$$14 + \frac{42}{200} \times 4$$

$$= 14.84 \text{ kg}$$

The number of bacteria on a petri dish is measured every hour and is modelled by the formula below.
 N = number of bacteria
 t = time (in hours)

$$N = A \times 2.71^{0.2t}$$

At the beginning of the experiment there were 80 bacteria.

Show $A = 80$

$$80 = A \times 2.71^0$$

$$\therefore A = 80$$

How many hours would it take for there to be at least 200 bacteria on the petri dish?

$$4 \text{ hrs } 80 \times 2.71^{0.8} = 177.6$$

$$5 \text{ hr } 80 \times 2.71^1 = 216.8$$

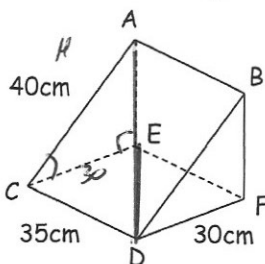
5 hours

How many bacteria would there be after one day?

$$80 \times 2.71^{(0.2 \times 24)}$$

$$\underline{\underline{9579 \text{ (or } 9580)}}}$$

Here is a triangular prism



$$\cos ACE = \frac{30}{40}$$

$$ACE = 41.41^\circ$$

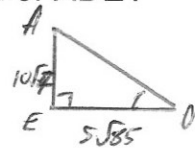
Which angle is larger, ACE or ADE?

$$ED = \sqrt{30^2 + 35^2} = 5\sqrt{85}$$

$$AE = \sqrt{40^2 - 30^2} = 10\sqrt{7}$$

$$\tan ADE = \frac{10\sqrt{7}}{5\sqrt{85}} = 0.57...$$

$$ADE = 29.85^\circ$$



ACE