

2 Egg cells vary in size.

(a) The table shows the size of egg cells from three species of animal.

Species	Diameter of egg cell / $\mu\text{m}$
Orb weaver spider	10
Human	150
Blue poison dart frog	1600

(i) Which of the following shows the diameter, in standard form, of the egg cell of a blue poison dart frog?

(1)

- A  $1.6 \times 10^{-2} \mu\text{m}$
- B  $1.6 \times 10^2 \mu\text{m}$
- C  $1.6 \times 10^{-3} \mu\text{m}$
- D  $1.6 \times 10^3 \mu\text{m}$

(ii) The egg cells of humans and blue poison dart frogs are approximately spherical.

The volume of a sphere ( $V$ ) is calculated using the formula

$$V = \frac{4}{3}\pi r^3$$

The volume of the human egg cell is  $1.8 \times 10^6 \mu\text{m}^3$ .

Calculate how many times larger the volume of the blue poison dart frog egg cell is than the volume of a human egg cell.

Give your answer to two significant figures.

(3)

Answer .....