

Mathematics (National 5) USAP 1(a) Homework – Ink Exercise

1. John has just put £700 into a savings account where the rate of interest is 4% per annum.

How much will his savings be worth after 3 years?

(3)

2. My new car has just cost me £18,000. Its value will depreciate by 20% every year.

How much will it be worth when I trade it in 3 years from now?

(3)

3. Hassan has been told his hourly pay is to increase by 6% to £9.54.

Calculate his hourly rate before the increase.

(3)

4. Due to fire damage, the value of a painting has fallen by 34% and is now valued at £4158.

What was its value before the damage?

(3)

5. Laura has applied to join the RAF and has to sit an 'Entrance Test'. Part of it includes some problems with fractions. Work out the answers.

(a) $\frac{5}{6} + \frac{3}{7}$ (b) $3\frac{3}{8} - \frac{5}{16}$ (c) $\frac{11}{15} \times \frac{3}{22}$ (d) $\frac{34}{45} \div \frac{85}{102}$

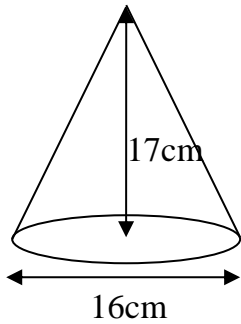
- (e) A plank of wood $3\frac{3}{4}$ metres long is cut up into 5 equal pieces. How long is each piece?

- (f) Each cow in a herd of 25 produces $4\frac{2}{3}$ litres of milk. How much milk is this in total?

(6)

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6. A cone has a base diameter of 16cm and a height of 17cm.



Calculate the volume of the cone, giving your answer correct to 3 sig figs.

$$[\text{Volume of cone} = \frac{1}{3}\pi r^2 h]$$

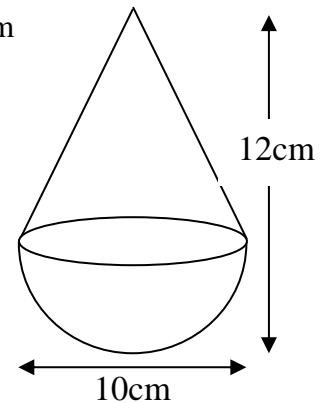
(3)

7. A lead sinker is in the shape of a cone with a hemispherical base.

The total height of the sinker is 12cm and the diameter of the base is 10cm

Calculate the volume of lead required to make the sinker.

$$[\text{Volume of sphere} = \frac{4}{3}\pi r^3]$$



(5)

8. A pyramid has a square base of side 6cm and a vertical height of 9cm.

Calculate the volume of the pyramid correct to 2 significant figures.

(4)

Total – 30 marks