HOME EXERCISE 5

Set out carefully all appropriate working.

Do **not** use a calculator in questions 1, 2 or 3.
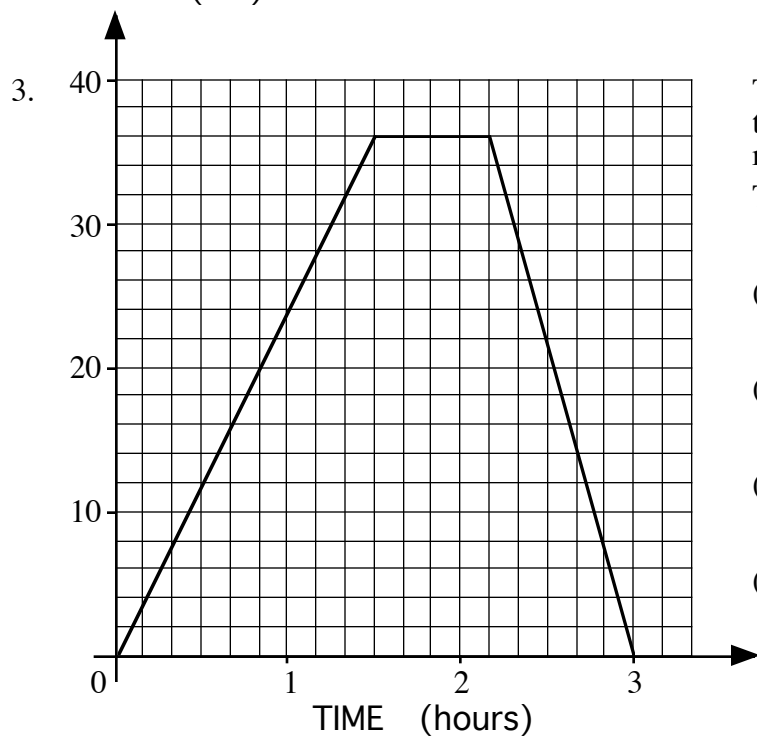Use a calculator in questions 4 and 5.

1. If $a = -3$ and $b = 12$, evaluate: (a) $2a - b$ (2)

    (b) $a^2 - b$ (2)

2. Solve for y: $4y = 18 - 2y$ (2)

DISTANCE (km)

3.

TIME (hours)

Tom drives from Ayton to Beeton to get a new car tyre fitted and then returns home to Ayton.

The graph shows his journey.

(a) How many kilometres is it from Ayton to Beeton?   (1)
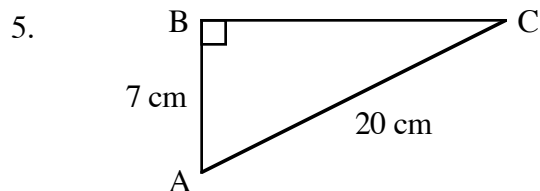
(b) How long, in minutes, did Tom stay in Beeton?   (1)

(c) Calculate Tom's average speed as he travels to Beeton.   (3)

(d) Calculate Tom's average speed as he travels home to Ayton.   (3)

4. One **milligram** of argon gas contains $1 \cdot 507 \times 10^{19}$ atoms.
   Calculate the number of atoms in 3 **grams** of argon gas.   (3)

   Write your answer in **scientific notation** and correct to **3 significant figures**.

5.

The triangle shown is right-angled.
Calculate the missing length, correct to one decimal place.   (3)

Total 20 marks