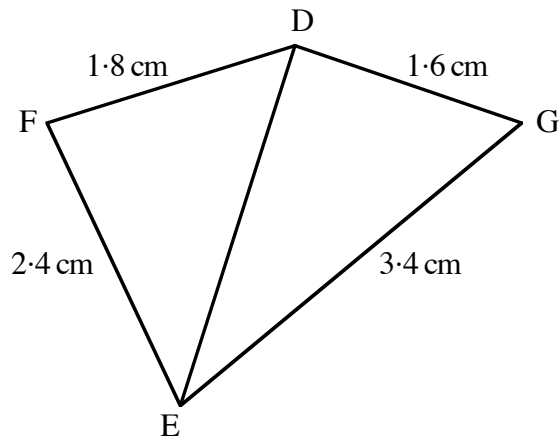# HOME EXERCISE 1

Set out carefully all appropriate working.

1. Evaluate: $6\frac{3}{4} - 5\frac{1}{3} \times \frac{7}{8}$ (3)

2. If $a=3$, $b=-4$ and $c=-1$, evaluate: $b^2 + 2ac$ (3)

3. (a) In the diagram below triangle DEG is right-angled at D.
   Use triangle DEG to calculate the length of side DE. (2)

   (b) Show that triangle DEF is right-angled. (3)

4. A new jet fighter is being tested in flight trials.
   It leaves the air force base at exactly 13 55 and aims to reach its target zone, which is 1140 km away, by 15 05 at the latest.
   The top speed of the plane is 950 km per hour.
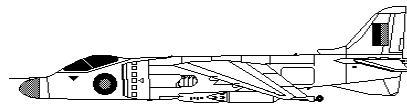
   Can the pilot hope to succeed in his mission? (4)

5. Solve the equation: $(2x + 3)^2 = (4x - 3)(x + 3)$ (5)

Total 20 marks