Class Test 2

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Answer all questions. Show your working clearly.

1. Expand and simplify each of the following expressions.
   (a) $(4a + 3)(a - 1)$ [1]
   (b) $3(p - 5) - 2(1 - 5p)$ [1]

2. Expand and simplify the expression $4x + (x - 2)(x - 3)$. [2]

3. Factorise each of the following expressions completely.
   (a) $-6x^2 - 20x - 6$ [1]
   (b) $x^3 - 3x^2 + 2x$ [2]

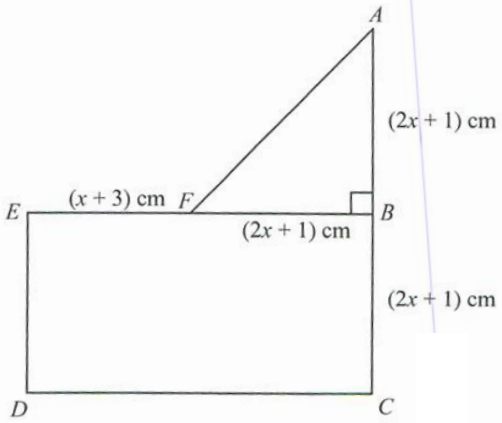
4. Factorise $-4y^2 + \frac{1}{3}y + \frac{1}{3}$ completely. [2]

5. Factorise $35a^2 + 63a + 28$ completely. [2]

6. (a) Expand and simplify the expression $3x^2 - 2(x - 1)^2 + 6$. [2]
   (b) Hence, evaluate $3(8)^2 - 2(7)^2 + 6$. [2]

7. Alex takes $(2p - 3)$ hours to travel from his home to school. The distance between Alex's home and school is $(2p^2 + 3p - 9)$ km. Alex travels at a constant speed. Show that Alex travels at the constant speed of $(p + 3)$ km/h. [2]

8. In the figure below, $AB = BC = BF = (2x + 1)$ cm and $EF = (x + 3)$ cm.



Find and simplify, in terms of x, an expression for the total area of figure $ABCDEF$. [3]