Evaluating an expression or formulae which has more than one variable

1. If $x = 5$ and $y = 3$, find the value of

(a) $x + y$ **(b)** $2x - 4$ **(c)** $x^2 + 6y$ [2, 2, 2]

2. **(a)** $s = u + at$. Find s when $u = 3$, $a = 5$ and $t = 6$

(b) $E = mc^2$ Find E when $m = 7$ and $c = 5$

(c) $b = \sqrt{\frac{c}{d}}$ Find b when $c = 100$ and $d = 4$ [2, 2, 2]

3. The cost of using a photocopier is £2 plus 5 pence for each copy printed.

The cost £C of printing n copies is given by the formula

$$C = 2 + 0{\cdot}05n$$

(a) Find the cost of printing a class set of 30 worksheets.

(b) Peter was charged £4.75 for a number of copies.

How many copies did he have made? [2, 2]

4. $W = \sqrt{\frac{V}{h}}$. Calculate W when $V = 81$ and $h = 9$. [3]

5. Using the formula $F = \frac{\sqrt{E}}{g\,h^2}$, calculate F when $E = 3600$, $g = 3$ and $h = 2$. [3]

6. The formula to calculate acceleration is given as

$$a = \frac{2d}{t^2}$$

Where$a$ is the acceleration, d is the total distance and t is the time.
Calculate the acceleration when the distance is 100 metres and the time is 8 seconds.
Give your answer correct to 1 decimal place. [3]

[25 marks]