Algebra - Completing the Square

Find *a* and *b* when

$$x^2 + 6x - 14 = (x + a)^2 + b.$$

$a =$ _____ $b =$ _____[3]

For all values of x, $\quad x^2 + 6x - 2 = (x + p)^2 + q$

(d) Find the value of p and the value of q.

$p =$ .... $\quad q =$ ....

(2)

Algebra - Completing the Square

Find a and b when

$$(x + a)(x + a)$$
$$= x^2 + 2ax + a^2$$

$$x^2 + 6x - 14 = (x + a)^2 + b.$$

$$x^2 + 6x - 14 = (x + 3)^2 - 14 - 9$$
$$= (x + 3)^2 - 23$$

$a = \underline{\quad 3 \quad}$ $b = \underline{\quad -23 \quad}$ [3]

For all values of x, $x^2 + 6x - 2 = (x + p)^2 + q$

(d) Find the value of p and the value of q.

$$x^2 + 6x - 2 = (x + 3)^2 - 2 - 9$$
$$= (x + 3)^2 - 11$$

$p = \underline{\quad 3 \quad}$ $q = \underline{\quad -11 \quad}$

(2)