Names (pair) _____ Date _____

Quadratic Equations: Practice and Check

1 IN PAIRS **Find the pair.** Match each equation with its solutions. **Student A** does equations 1–3 and **student B** equations 4–6. Each letter appears exactly once, so check your partner's answers too.

A **1.** $x^2 - 16 = 0$ ☐

A **2.** $x^2 - 4x = 0$ ☐

A **3.** $x^2 - 8x + 16 = 0$ ☐

B **4.** $x^2 + 16 = 0$ ☐

B **5.** $x^2 + 3x - 4 = 0$ ☐

B **6.** $x^4 - 17x^2 + 16 = 0$ ☐

A 1 , -4

B ± 4

C no real solutions

D 0 , 4

E ± 1 , ± 4

F only 4

2 ON YOUR OWN **Check.** Solve on your own.

a) Solve $2x^2 - 3x - 2 = 0$. ☐

b) How many solutions does $4x^2 + 4x + 1 = 0$ have? ☐

c) The sum and product of the solutions of $5x^2 - 10x - 3 = 0$: ☐

d) An equation whose solutions are -2 and 5: ☐

e) For which m does $x^2 + 6x + m = 0$ have only one solution? ☐

Names (pair) _____ Date _____

f) Solve $x^4 - 10x^2 + 9 = 0$.

g) Solve $x + \frac{8}{x} = 6$.

h) A rectangle has an area of 60 cm², and one side is 7 cm longer than the other. How long are the sides?

3 ON YOUR OWN Check yourself. Tick.

I can...	confidently	mostly	need practice
solve an incomplete quadratic equation	☐	☐	☐
solve an equation by factorising, completing the square and the formula	☐	☐	☐
choose the quickest method	☐	☐	☐
use the discriminant to find the number of solutions	☐	☐	☐
use Vieta's formulas	☐	☐	☐
solve an equation with a parameter	☐	☐	☐
solve an equation by substitution or with fractions	☐	☐	☐
set up and solve a word problem	☐	☐	☐

4 ON YOUR OWN Which item do you need to practise? Find a sheet on the Quadratic Equations page that can help and write its name.