# How many real solutions — Both forms

Name: _____ Date: _____

How many real solutions does each equation have? Circle one.

1. $4x^2 - 13x - 56 = 0$ Two / One / None
2. $x^2 - 9x + 79 = 0$ Two / One / None
3. $x^2 - 10x + 25 = 0$ Two / One / None
4. $5x^2 - 13x + 4 = 0$ Two / One / None
5. $2x^2 - 12x + 18 = 0$ Two / One / None
6. $5x^2 - 7x + 70 = 0$ Two / One / None
7. $x^2 - 16x - 21 = 0$ Two / One / None
8. $x^2 - 4x + 4 = 0$ Two / One / None
9. $x^2 - 4x + 48 = 0$ Two / One / None
10. $4x^2 + 4x + 1 = 0$ Two / One / None

# How many real solutions · Both forms — Answer key

1. $4x^2 - 13x - 56 = 0$: $-13^2 - 4 \times 4 \times -56 = 169 - -896 = 1065$ → Two

2. $x^2 - 9x + 79 = 0$: $-9^2 - 4 \times 1 \times 79 = 81 - 316 = -235$ → None

3. $x^2 - 10x + 25 = 0$: $-10^2 - 4 \times 1 \times 25 = 100 - 100 = 0$ → One

4. $5x^2 - 13x + 4 = 0$: $-13^2 - 4 \times 5 \times 4 = 169 - 80 = 89$ → Two

5. $2x^2 - 12x + 18 = 0$: $-12^2 - 4 \times 2 \times 18 = 144 - 144 = 0$ → One

6. $5x^2 - 7x + 70 = 0$: $-7^2 - 4 \times 5 \times 70 = 49 - 1400 = -1351$ → None

7. $x^2 - 16x - 21 = 0$: $-16^2 - 4 \times 1 \times -21 = 256 - -84 = 340$ → Two

8. $x^2 - 4x + 4 = 0$: $-4^2 - 4 \times 1 \times 4 = 16 - 16 = 0$ → One

9. $x^2 - 4x + 48 = 0$: $-4^2 - 4 \times 1 \times 48 = 16 - 192 = -176$ → None

10. $4x^2 + 4x + 1 = 0$: $4^2 - 4 \times 4 \times 1 = 16 - 16 = 0$ → One