Unit 7 Lesson 3: Solving Quadratic Equations by Reasoning

1 How Many Solutions? (Warm up)

Student Task Statement

How many solutions does each equation have? What are the solution(s)? Be prepared to explain how you know.

1. $x^2 = 9$

2. $x^2 = 0$

3. $x^2 - 1 = 3$

4. $2x^2 = 50$

5. $(x + 1)(x + 1) = 0$

6. $x(x - 6) = 0$

7. $(x - 1)(x - 1) = 4$

2 Finding Pairs of Solutions

Student Task Statement

Each of these equations has two solutions. What are they? Explain or show your reasoning.

1. $n^2 + 4 = 404$

2. $432 = 3n^2$

3. $144 = (n + 1)^2$

4. $(n - 5)^2 - 30 = 70$