# Lesson 11: Finding Perfect Squares

- Let's explore perfect squares

## 11.1: Finding Perfect Squares

Is each number or expression a perfect square? Explain how you know.

1. $\frac{1}{16}$

2. 9

3. 39

4. 121

5. 324

6. $x^2$

7. $100t$

8. $49a^2$

9. $3c^2$

10. $(x-1)^2$

## 11.2: Solving Perfect Square Equations

Solve these equations. Be prepared to explain your reasoning.

1. $x^2 = 16$

2. $x^2 - 25 = 0$

3. $x^2 + 13 = 113$

4. $3x^2 = 75$

5. $121 - x^2 = 0$

6. $98 - 2x^2 = 0$

7. $(x - 2)^2 = 100$

8. $(x + 1)(x + 1) = 9$

## 11.3: Row Game: Making Expressions Simpler

Work independently on your column. Partner A completes the questions in column A only and partner B completes the questions in column B only. Your answers in each row should match. Work on one row at a time and check if your answer matches your partner's before moving on. If you don't get the same answer, work together to find any mistakes. Write each expression using the fewest number of terms possible.

Partner A

1. $(4a)^2$

2. $9b^2 + 39b^2 + b^2$

3. $6c \cdot 6c$

4. $4d \cdot 16d$

5. $(\frac{1}{4}k)^2$

6. $(\frac{1}{2}n)(\frac{1}{18}n)$

7. $(x + 3)^2$

8. $(4y - 1)(4y - 1)$

Partner B

1. $5a^2 + 11a^2$

2. $(7b)^2$

3. $4c \cdot 9c$

4. $8d \cdot 8d$

5. $k^2 - \frac{15}{16}k^2$

6. $(\frac{1}{6}n)^2$

7. $(x + 3)(x + 3)$

8. $(4y - 1)^2$