LearningObjective: Students will be able to use formal language to describe a power and look at the specific case of perfect squares.

WarmUp

$56\overline{)2968}$ $\quad$ $94\overline{)3854}$

$84\overline{)8232}$ $\quad$ $33\overline{)792}$

1.1 Record and Practice Journal

Find the value of the expression. Use estimation to check your answer.

1. $5947 + 2001$

   7948

2. $2587 + 1654$

   4241

3. $5684 + 3118$

   8802

4. $1596 - 302$

   1294

5. $9564 - 7581$

   1983

6. $7094 - 989$

   6105

7. $851 \div 37$

   23

8. $\frac{612}{68}$

   9

9. $8970 \div 345$

   26

10. $\frac{5424}{52}$

    104 R16 or $104\frac{4}{13}$

11. $8549 \div 198$

    43 R35 or $43\frac{35}{198}$

12. $74{,}386 \div 874$

    85 R96 or $85\frac{48}{437}$

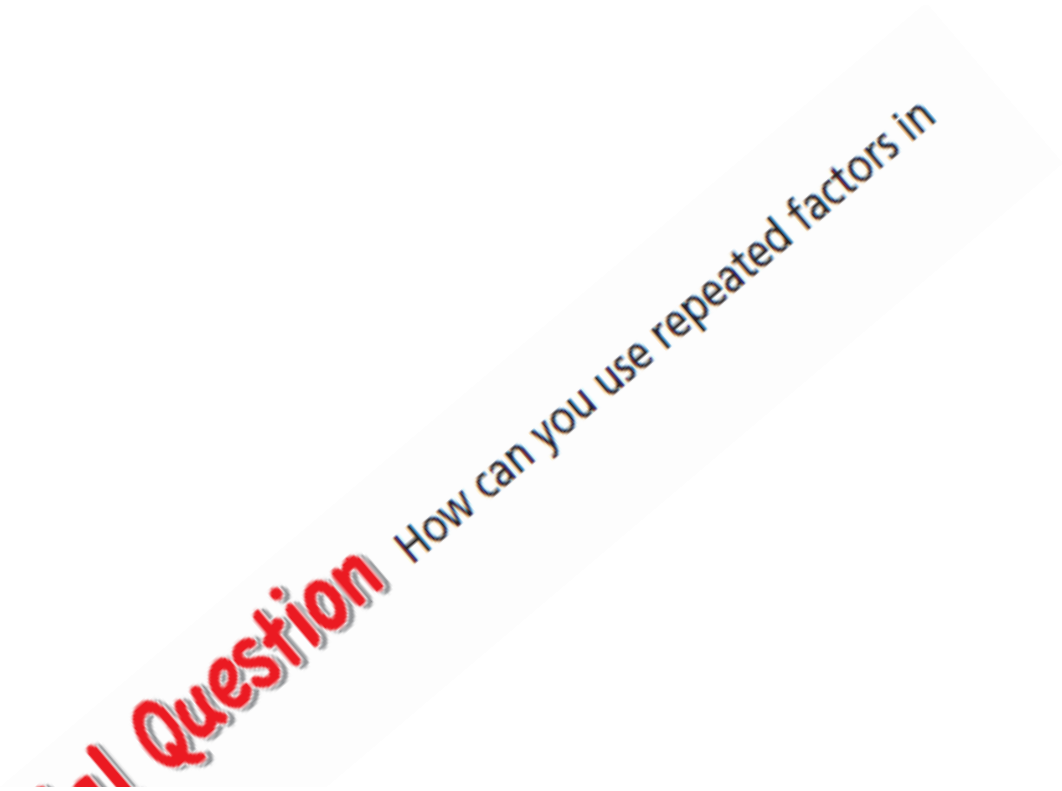
13. Your family is traveling 345 miles to an amusement park. You have already traveled 131 miles. How many more miles must you travel to the amusement park?

    214 miles

LearningObjective: Students will be able to use formal language to describe a power and look at the specific case of perfect squares.

Lesson 1.2

September 5, 2014



Lesson 1.2 September 5, 2014

LessonObjective:

Students will be able to:

use formal language to describe a power and look at the specific case of perfect squares.

LearningObjective: Students will be able to use formal language to describe a power and look at the specific case of perfect squares.

Self-EvaluationScale

Score	Description
4	I can teach other students how to use formal language to describe a power and look at the specific case of perfect squares.
3	I can use formal language to describe a power and look at the specific case of perfect squares.
2	I recognize, but sll need help to use formal language to describe a power and look at the specific case of perfect squares.
1	I do not know how to use formal language to describe a power and look at the specific case of perfect squares.

LearningObjective: Students will be able to use formal language to describe a power and look at the specific case of perfect squares.

Activity1,2,&3

With a partner, work on Acvity 1, 2, & 3 on pages 7, 8, & 9 of your Big Ideas Record and Pracce Journal.

$2^2 = 2 \cdot 2 = 4$

$3^2 = 3 \cdot 3 = 9$

repeated factor = Base

LearningObjective: Students will be able to use formal language to describe a power and look at the specific case of perfect squares.

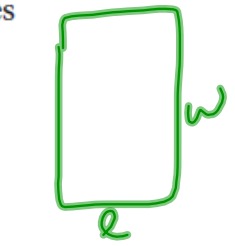
A **power** is a product of repeated factors. The **base** of a power is the repeated factor. The **exponent** of a power indicates the number of times the base is used as a factor.

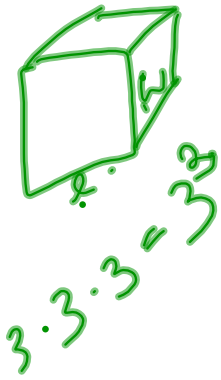
Value

$= 81$

Power	Words
3^2	Three *squared*, or three to the second
3^3	Three *cubed*, or three to the third
3^4	Three to the fourth

Power





Mult = repeated addition

Powers = repeated mult.

LearningObjective: Students will be able to use formal language to describe a power and look at the specific case of perfect squares.

1 Writing Expressions as Powers

Write each product as a power.

a. $4 \cdot 4 \cdot 4 \cdot 4 \cdot 4$ 4^5

Because 4 is used as a factor 5 times, its exponent is 5.

∴ So, $4 \cdot 4 \cdot 4 \cdot 4 \cdot 4 = 4^5$.

b. $12 \times 12 \times 12$ 12^3

Because 12 is used as a factor 3 times, its exponent is 3.

∴ So, $12 \times 12 \times 12 = 12^3$.

LearningObjective: Students will be able to use formal language to describe a power and look at the specific case of perfect squares.

OnYourOwn

Write the product as a power.

1. $6 \cdot 6 \cdot 6 \cdot 6 \cdot 6 \cdot 6$

2. $15 \times 15 \times 15 \times 15$

LearningObjective: Students will be able to use formal language to describe a power and look at the specific case of perfect squares.

2 Finding Values of Powers

Find the value of each power.

a. 7^2

$7^2 = 7 \cdot 7$ Write as repeated multiplication.

$= 49$ Simplify.

b. 5^3

$5^3 = 5 \cdot 5 \cdot 5$

$= 125$

The square of a whole number is a **perfect square**.

LearningObjective: Students will be able to use formal language to describe a power and look at the specific case of perfect squares.

3 Identifying Perfect Squares

Determine whether each number is a perfect square.

a. 64

Because $8^2 = 64$, 64 is a perfect square.

b. 20

No whole number squared equals 20. So, 20 is not a perfect square.

LearningObjective: Students will be able to use formal language to describe a power and look at the specific case of perfect squares.

OnYourOwn

$9^2 = 9 \cdot 9 = 81$

$3^4 = 3 \cdot 3 \cdot 3 \cdot 3 = 9$

Find the value of the power.

3. 6^3
4. 9^2
5. 3^4
6. 18^2

Determine whether the number is a perfect square.

7. 25
8. 2
9. 99
10. 100

LearningObjective: Students will be able to use formal language to describe a power and look at the specific case of perfect squares.

4) $9 \cdot 9 = 9^2$

Assignment

Complete problems 4, 5, 14, 15, 25, 26, 36, 37, & 38 on pages 14 & 15 in your Big Ideas Text Book.

LearningObjective: Students will be able to use formal language to describe a power and look at the specific case of perfect squares.

Lesson 1.2

September 5, 2014

Essential Question How can you use repeated factors in real-life situations?

Lesson 1.2 September 5, 2014

LessonObjective:

Students will be able to:

use formal language to describe a power and look at the specific case of perfect squares.

LearningObjective: Students will be able to use formal language to describe a power and look at the specific case of perfect squares.

Self-EvaluationScale

Score	Description
4	I can teach other students how to use formal language to describe a power and look at the specific case of perfect squares.
3	I can use formal language to describe a power and look at the specific case of perfect squares.
2	I recognize, but sll need help to use formal language to describe a power and look at the specific case of perfect squares.
1	I do not know how to use formal language to describe a power and look at the specific case of perfect squares.

LearningObjective: Students will be able to use formal language to describe a power and look at the specific case of perfect squares.

Homework

In your Big Ideas Record and Pracce Journal page 10.