

PRACTICE QUESTIONS: Difference of Squares

Date: _____

1. Find the positive square root of each number.
 a) 49 b) 81 c) 100

For help with question 2, refer to Example 2.

2. Write each number as a power of its positive square root.
 a) 25 b) 36 c) 16

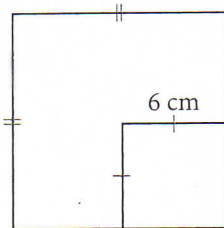
For help with question 3, refer to Example 3.

3. Which expressions are differences of squares? Provide reasons for your decision.
 a) $x^2 - 9$ b) $49 + x^2$ c) $100 - 36x^2$

For help with question 4, refer to Example 4.

4. Factor each difference of squares. Check your answer.
 a) $x^2 - 81$ b) $x^2 - 121$ c) $x^2 - 144$
 d) $400 - x^2$ e) $25 - x^2$ f) $49 - x^2$
 g) $100 - x^2$ h) $225 - x^2$ i) $16x^2 - 121$

5. A square has area x^2 square centimetres. At one corner, a smaller square with sides 6 cm long has been removed.



- a) Write the binomial to represent the difference between the two areas.
 b) Factor the binomial to find expressions for the dimensions of a rectangle with area equal to the remaining area of the large square.
 c) Find the actual dimensions of this rectangle if $x = 10$ cm.

Answers

1. a) 7 b) 9 c) 10
 2. a) 5^2 b) 6^2 c) 4^2
 3. a) yes, both perfect squares and one positive term and one negative term
 b) no, both terms are positive
 c) yes, both perfect squares and one positive term and one negative term
 4. a) $(x + 9)(x - 9)$ b) $(x + 11)(x - 11)$
 c) $(x + 12)(x - 12)$ d) $(20 + x)(20 - x)$
 e) $(5 + x)(5 - x)$ f) $(7 + x)(7 - x)$
 g) $(10 + x)(10 - x)$ h) $(15 + x)(15 - x)$
 i) $(4x + 11)(4x - 11)$
 5. a) $x^2 - 36$ b) $(x + 6)(x - 6)$ c) 64 cm²