

Practice: Factor a Difference of Squares

- Find the positive square root of each number.
a) 64 b) 169
c) 121 d) 144
- Write each number as a power of its positive square root.
a) 4 b) 9
c) 225 d) 10 000
- Which expressions are differences of squares.
a) $x^2 + 9$ b) $25 - 9x^2$
c) $x^2 - 81$ d) $x^2 + 64$
- Factor each difference of squares.
a) $x^2 - 25$ b) $64 - 4x^2$
c) $9x^2 - 81$ d) $9x^2 - 49$
- The total area of the driveway is $4x^2$. Jordan shovelled a portion of the driveway that is 3 m by 3 m. He left the rest of the driveway for his brother to shovel.
a) Write an expression to represent the area left for his brother to shovel.
b) Factor the expression from part a) to find expressions for the dimensions of a rectangle with an equal area to the remaining area of the driveway.
c) Find the actual dimensions of the rectangle if $x = 3$ m.
- The area of a chalkboard is represented by $x^2 - 144$.
a) What are the dimensions of chalkboard?
b) Find the actual dimensions if $x = 100$ cm.
- The area of a desk's rectangular surface is represented by $x^2 - 16$.
a) What are the dimensions of the desk's surface?
b) Find the actual dimensions if $x = 80$ cm.
- Jim wants to put some furniture in his bedroom. The floor area of his bedroom is x^2 . He wants to put in a bed that has surface area 4 m^2 . Write a quadratic expression that represents the floor area of the bedroom that is left for other furniture.
- Silva wants to use an area of her backyard for a garden. The area of the backyard is $9x^2$. She wants her garden to be 16 m^2 .
a) Write a quadratic expression that represents the remaining area of the backyard.
b) What are the dimensions of a rectangle with the same area as the remaining area of the backyard?
c) What are the actual dimensions if $x = 3$ m?
- The total area of the living room floor is $16x^2$. Michelle wants an area of the room marked off for a new sofa that requires 4 m^2 .
a) Write the binomial to represent the area left in the living room after the sofa area is marked off.
b) Factor the binomial to find expressions for the dimensions of a rectangle with an equal area to the remaining area of the room.