

Practice Problem Set

ANSWER KEY

Factor each binomial.

1. $x^2 - 1$ $\sqrt{x^2} = x$
 $\sqrt{1} = 1$

$(x + 1)(x - 1)$
or
 $(x - 1)(x + 1)$

2. $x^2 - 144$ $\sqrt{x^2} = x$
 $\sqrt{144} = 12$

$(x + 12)(x - 12)$
or
 $(x - 12)(x + 12)$

3. $x^2 - 100$ $\sqrt{x^2} = x$
 $\sqrt{100} = 10$

$(x + 10)(x - 10)$
or
 $(x - 10)(x + 10)$

4. $9x^2 - 64$ $\sqrt{9x^2} = 3x$
 $\sqrt{64} = 8$

$(3x + 8)(3x - 8)$
or
 $(3x - 8)(3x + 8)$

5. $4x^2 - 81$ $\sqrt{4x^2} = 2x$
 $\sqrt{81} = 9$

$(2x + 9)(2x - 9)$
or
 $(2x - 9)(2x + 9)$

6. $16x^2 - 25$ $\sqrt{16x^2} = 4x$
 $\sqrt{25} = 5$

$(4x + 5)(4x - 5)$
or
 $(4x - 5)(4x + 5)$

7. Determine if the polynomial expression below is D.O.T.S. Explain your reasoning.

a) $x^2 - 400$ **Yes**, It's D.O.T.S: A binomial that is a difference of two perfect squares

b) $36x^2 + 1$ **NO**, It's not D.O.T.S: The binomial is not a difference, it's a sum

c) $x^2 - 20$ **NO**, It's not D.O.T.S: 20 is not a perfect square term

d) $25x^2 - 4$ **Yes**, It's D.O.T.S: A binomial that is a difference of two perfect squares