

Arithmetic with Polynomials - Worksheet 4

Answer Key

Complete the following identities.

1. $\frac{a^2+2ab+b^2}{a+b} =$

$a + b$ when $a \neq -b$.

6. $(a - b)(a + b) + 2b^2 =$

$(a - b)(a + b) + 2b^2 = a^2 + b^2$.

2. $\frac{a^2-b^2}{a+b} =$

$a - b$ when $a \neq -b$.

7. $\frac{x^{n+1}}{x} =$

$\frac{x^{n+1}}{x} = x^n$.

3. $(x - y)(x^2 + xy + y^2) =$

$x^3 - y^3 = (x - y)(x^2 + xy + y^2)$

8. $(a - b)^3 =$

$(a - b)^3 = a^3 - 3a^2b + 3ab^2 - b^3$.

4. $(x + y)(x^2 - xy + y^2) =$

$x^3 + y^3 = (x + y)(x^2 - xy + y^2)$

9. $(a + b)^3 =$

$(a + b)^3 = a^3 + 3a^2b + 3ab^2 + b^3$.

5. $x^4 - y^4 =$

$x^4 - y^4 = (x - y)(x + y)(x^2 + y^2)$

10. $\sqrt{a} + \sqrt{b} =$

$\sqrt{a} + \sqrt{b} = \frac{a-b}{\sqrt{a}-\sqrt{b}}$.

©2013 Shmoop University, Inc. All rights reserved. For classroom use only. Want to print this out for your classroom? Go for it. All other reproduction and distribution is prohibited.

<http://www.shmoop.com/pre-algebra/>
Shmoop will make you a better lover (of literature, math, life...)