

Algebra 1
6.5 Preview

Name _____

Fill in the table.

$1^2 =$	$1^3 =$	$1^4 =$	$1^5 =$
$2^2 =$	$2^3 =$	$2^4 =$	$2^5 =$
$3^2 =$	$3^3 =$	$3^4 =$	$3^5 =$
$4^2 =$	$4^3 =$	$4^4 =$	$4^5 =$
$5^2 =$	$5^3 =$	$5^4 =$	$5^5 =$
$6^2 =$	$6^3 =$	$6^4 =$	$6^5 =$
$7^2 =$	$7^3 =$	$7^4 =$	$7^5 =$
$8^2 =$	$8^3 =$	$8^4 =$	$8^5 =$
$9^2 =$	$9^3 =$	$9^4 =$	$9^5 =$
$10^2 =$	$10^3 =$	$10^4 =$	$10^5 =$

Solve each equation. (Hint: When bases are the same, equate the exponents and solve for x.)

<p>Example:</p> $3^{x+1} = 3^5$ <p>$x + 1 = 5$ equate the exponents</p> <p>$\underline{-1} \quad \underline{-1}$ subtract 1 from each side</p> $x = 4$ simplify	<p>2. $6 = 6^{2x-3}$</p>	<p>3. $10^{3x} = 10^{2x+3}$</p>
<p>4. $2^{2x} = 2^6$</p>	<p>5. $5^{2x} = 5^{4x-12}$</p>	<p>6. $7^{3x+5} = 7^{x+1}$</p>
<p>7. $4^{7x} = 4^{3x+16}$</p>	<p>8. $9^2 = 9^{4x-10}$</p>	<p>Challenge: $2^{x-5} = 8$</p>