Algebra 2: Home Practice

Section 6.1 - Rational Exponents

Write each expression in exponential form.

1) $\sqrt[4]{5}$

$5^{\frac{1}{4}}$

3) $\left(\sqrt[6]{10}\right)^{7}$

$10^{\frac{7}{6}}$

5) $\left(\sqrt{6}\right)^{3}$

$6^{\frac{3}{2}}$

Write each expression in radical form.

7) $6^{\frac{1}{3}}$

$\sqrt[3]{6}$

9) $2^{\frac{5}{2}}$

$\left(\sqrt{2}\right)^{5}$

11) $7^{\frac{5}{2}}$

$\left(\sqrt{7}\right)^{5}$

Evaluate the expression without using a calculator.

13) $25^{\frac{1}{2}}$

5

15) $8^{\frac{4}{3}}$

16

17) $32^{\frac{3}{5}}$

8

Solve the equation.

19) $x^5 = 32$

2

21) $3x^4 = 144$

$\sqrt[4]{48}, -\sqrt[4]{48}$

Evaluate each function.

23) $g(n) = n^2 - 5n$; Find $g(9)$

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Perform the indicated operation.

25) $g(t) = -t + 5$
$h(t) = 3t + 5$
Find $g(t) + h(t)$

$2t + 10$

27) $g(a) = 2a - 4$
$f(a) = 3a - 1$
Find $g(f(a))$

$6a - 6$

Find the inverse of each function.

29) $g(x) = \dfrac{-5 + 4x}{5}$

$g^{-1}(x) = \dfrac{5x + 5}{4}$