

1. Write the expression $x^{5/8}$ in radical form.

2. Write the radical $\sqrt[5]{32x^3}$ using rational exponents.

Solve each equation

$$3\sqrt[3]{2x-7} = -2$$

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$$\sqrt[8]{x^5}$$

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$$3(\sqrt[3]{2x-7})^3 = (-2)^3$$

$$2x-7 = -8 \\ 2x = -1 \\ x = -\frac{1}{2}$$

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1. Find $(f+g)(x)$ for the following functions.

$$f(x) = 6x^2 + 9x + 8$$

$$g(x) = 4x + 6$$

2. Find $(f-g)(x)$ for the following functions.

$$f(x) = -3x^3 + 12x^2 - 7$$

$$g(x) = 11x^2 + 17$$

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3. Find $(f \cdot g)(x)$ for the following functions.

$$f(x) = (x^2 - 9x - 11)$$

$$g(x) = (11x - 4)$$

$$(11x-4)(x^2 - 9x - 11)$$

$$11x^3 - 99x^2 - 121x - 4x^2 + 36x + 44$$

4. Find $\left(\frac{f}{g}\right)(x)$ for the following functions.

$$f(x) = 12x^2 - 5x - 8$$

$$g(x) = 7x - 6$$

$$11x^3 - 103x^2 - 85x + 44$$

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5. Find $[g \circ h](x)$ and $[h \circ g](x)$.

$$g(x) = 7x$$

$$h(x) = (5x^3 + 9x^2 - 2x + 2)$$

$$= 5(7x)^3 + 9(7x)^2 - 2(7x) + 2$$

6. Find $[g \circ h](x)$ and $[h \circ g](x)$.

$$g(x) = 3x$$

$$h(x) = -6x - 5$$

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Find the inverse of the given relation.

$$7. \{(1, -5), (12, -7), (9, -9), (16, -13)\}$$

$$8. \{(1, -3), (-4, 5), (4, -2)\}$$

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Find the inverse of the given function.

9. $f(x) = \frac{7x-3}{16}$

10. Determine whether each pair of functions are inverse functions.

1) $f(x) = \frac{11x+4}{4}$

$g(x) = \frac{9x-6}{11}$

no

2) $f(x) = x-8$

$g(x) = x+8$

yes

$(x+8)-8$

$x+8-8$

x

11. Determine whether each pair of functions are inverse functions.

1) $f(x) = 5x-8$

$g(x) = \frac{1}{5}(x+8)$

2) $f(x) = 11x+4$

$g(x) = 11x-4$

$\frac{1}{5}(9x-6)+4$

$\frac{9x-6+4}{5} = \frac{9x-2}{5}$

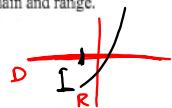
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12. Graph the given function. State its domain and range.

$y = -12\sqrt{5-6x} + 6$

window $y_{min} = -50$



13. Graph the inequality $y < \sqrt{4x-9} + 8$.

window $y_{max} = 20$

Simplify.

14. $\sqrt{25x^{20}y^{14}}$

15. $\sqrt[4]{81a^{32}b^{20}}$

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16. Use a calculator to approximate the value of $\sqrt[4]{(954)^2}$ to three decimal places.

17. Simplify $\sqrt{72x^5y^{12}}$.

Simplify.

18. $\sqrt{162} + \sqrt{32} - \sqrt{50}$

19. $\left(\underline{5+\sqrt{5}}\right)\left(\underline{7-\sqrt{2}}\right)$

$35 - 5\sqrt{2} + 7\sqrt{5} - \sqrt{10}$

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Write the given radical using rational exponents.

22. $\sqrt[3]{6a^5b^9}$

Solve the given equation.

24. $\sqrt{9x-9} + 5 = 10$

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