

Review Assignment

(Neatly show all work on separate graph paper)

7.1 nth Roots and Rational Exponents Evaluate the expression without a calculator

① $8^{3/4}$ ② $36^{3/2}$ ③ $16^{3/4}$ ④ $(-8)^{5/3}$ ⑤ $32^{2/5}$

7.2 Properties of Rational Exponents

Simplify the expression. Assume all variables are positive.

⑥ $x^{2/3} \cdot x^{1/3}$ ⑦ $\left(\frac{x}{4}\right)^{1/2}$ ⑧ $\sqrt[5]{27x} \cdot \sqrt[5]{9x^4}$ ⑨ $\frac{\sqrt{12x^2}}{\sqrt{3}}$

⑩ $4\sqrt{2} - \sqrt{8}$

7.3 Power Functions and Power Operations

Perform the given operation and state the domain.

Let: $f(x) = 4x^{1/2}$ and $g(x) = x + 3$

⑪ $f(x) + g(x)$ ⑫ $g(x) - f(x)$ ⑬ $f(x) \cdot g(x)$ ⑭ $\frac{g(x)}{f(x)}$

⑮ $f(g(x))$ ⑯ $g(f(x))$

7.4 Inverse Functions

Find the inverse function.

⑰ $f(x) = 3x + 8$ ⑱ $f(x) = \sqrt{2x - 3}$

7.5 Graphing Square Root and Cube Root Functions

Graph the function. Then state the domain & range.

(19) $f(x) = \sqrt{x-3} + 2$ (20) $f(x) = \sqrt[3]{x+1} + 3$

7.6 Solving Radical Equations

Solve the equation. Check for extraneous solutions.

(21) $2x^{\frac{3}{4}} + 7 = 23$ (22) $2(x+1)^{\frac{3}{2}} = 54$ (23) $\sqrt[4]{3x+5} = 6$

(24) $\sqrt{3x+1} = \sqrt{x-5}$ (25) $\sqrt{x+2} = x+2$

7.7 Statistics and Statistical Graphs

Basketball In 26-29, use the tables below which give the points scored in each game played by the boys and girls basketball teams this season.

Boys Team
56, 81, 80, 75, 48, 65, 90, 66, 70, 70

Girls Team
60, 72, 61, 58, 78, 65, 66, 55, 65, 73

- (26) Find the mean, median, mode, range, and standard deviation for each data set.
- (27) Interpret the data as to which team is more consistent in their scoring (use the standard deviation).
- (28) Draw a box-and-whisker plot of the boys points.



- (29) Make a frequency distribution of the girls points using five intervals beginning with 55-59. Then draw a histogram of this data.

