

Chapter Test A

Evaluate the expression without using a calculator.

1. $\sqrt[3]{-8}$ 2. $25^{1/2}$ 3. $27^{2/3}$ 4. $8^{-1/3}$

Simplify the expression. Assume all variables are positive.

5. $(2^{1/3} \cdot 3^{1/3})^3$ 6. $\sqrt[3]{8x^3y^6z^3}$ 7. $\frac{x^3y^3}{(xy)^{-3}}$ 8. $\sqrt{50} + \sqrt{8}$

Perform the indicated operation and state the domain. Let $f(x) = 3x$ and $g(x) = x - 5$.

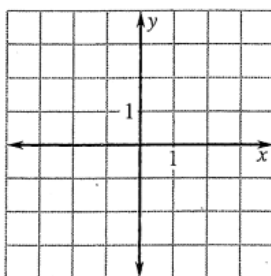
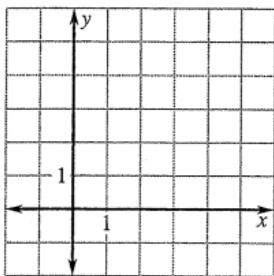
9. $f(x) + g(x)$ 10. $f(x) - g(x)$ 11. $f(x) \cdot g(x)$
 12. $\frac{f(x)}{g(x)}$ 13. $f(g(x))$

Find the inverse function.

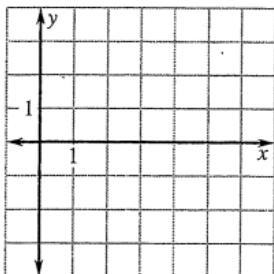
14. $f(x) = x + 9$ 15. $f(x) = \frac{1}{2}x + 2$
 16. $f(x) = 3x + 6$

Graph the function. Then state the domain and range.

17. $f(x) = \sqrt{x}$ 18. $f(x) = x^{1/3}$



19. $g(x) = \sqrt{x - 3}$



Solve the equation. Check for extraneous solutions.

20. $x^{1/2} + 3 = 4$ 21. $3\sqrt{2x + 4} = 12$ 22. $\sqrt[3]{x^2 + 9} = 3$

Answers

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____
11. _____
12. _____
13. _____
14. _____
15. _____
16. _____
17. Use grid at left.

18. Use grid at left.

19. Use grid at left.

20. _____
21. _____
22. _____