

D4-Alg 3-4 HW

7-120

Solve each of the following equations.

a. $\frac{x}{3} = x + 4$

b. $\frac{x+6}{3} = x$

c. $\frac{x+6}{x} = x$

d. $\frac{2x+3}{6} + \frac{1}{2} = \frac{x}{2}$

7-132

Use $f(x) = 3 + \sqrt{2x-1}$ to complete parts (a) through (e) below.

- What are the domain and range of $f(x)$?
- What is the inverse of $f(x)$? Call it $g(x)$.
- What are the domain and range of $g(x)$?
- Find an expression for $f(g(x))$.
- Find an expression for $g(f(x))$. What do you notice? Why does this happen?

7-133

Solve each of the following equations for x .

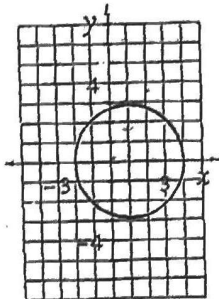
a. $x^3 = 243$

b. $3^x = 243$

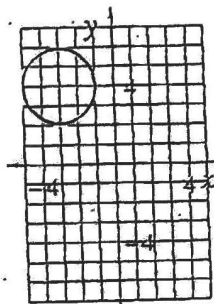
7-134

Write the equation of each circle graphed below.

a.



b.



7-136

If $f(x) = x^4$ and $g(x) = 3(x+2)$, find the value of each expression below.

a. $f(2)$

b. $g(2)$

c. $f(g(2))$

d. $g(f(2))$

e. Are $f(x)$ and $g(x)$ inverses of each other? Justify your answer.