

Math 71
Summer 2009

Name _____

Homework #9
Due Monday July 13
No late papers accepted! No exceptions!

1. Solve:

a) $x^2 - 20x = -100$

b) $(x - 6)(x + 6) = 45$

c) $x^4 - 26x^2 + 25 = 0$

2. Three consecutive even integers are such that the square of the third is 76 more than the square of the second. Find the three integers.

3. The foot of an extension ladder is 10 feet from the wall. The ladder is 2 feet longer than the height that it reaches on the wall. How far up the wall does the ladder reach?

4. Let $f(x) = 3x^2 - 15x + 11$. Find "a" such that $f(a) = 11$.

5. Perform the indicated operations. Simplify the result, if possible.

a) $\frac{x-4}{x^2+9x+14} + \frac{4x-5}{x^2-2x-8}$

b) $\frac{x^2}{x+4} \cdot \frac{x^2+6x+8}{x^2+8x}$

c) $\frac{x+1}{x^2-x-6} - \frac{x+2}{x^2-4}$

d) $\frac{x^2 - 10x + 24}{x^2 + 2x - 24} \div \frac{x^2 - 36}{x^2 + 10x + 24}$

6. Let $f(x) = \frac{x^2 - x}{x^3 + x^2 - 2x}$.

- a. Find the domain.
- b. Simplify, if possible.