

Algebra Review
Math 1100-005

1. Solve $x^2 - x - 6 = 0$

2. Solve $2x^2 + 3x - 4 = 0$

3. Simplify $\frac{2x-1}{x} - \frac{3x}{x-2}$

4. Multiply $\left(\frac{x}{x+3}\right)\left(\frac{x-1}{x^2}\right)$

5. Simplify $\frac{\frac{1}{x}}{\frac{3}{x+2}}$

6. Write x^2x^3 with a single exponent

7. Write $\frac{x^7}{x^5}$ with a single exponent

8. Find the domain of $\frac{1}{x-2}$.

9. Find the domain of $\sqrt{x+4}$ and sketch the graph.

10. Graph $x^2 - 1$. Find all the intercepts.

11. Find the equation of a line that passes through $(1,-3)$ and $(-2,-9)$.

12. What does the vertical line test tell you? What does the horizontal line test tell you?

13. For $f(x) = x^2 + 2x + 1$, find

(a) $f(1)$

(b) $f(x + h)$

(c) $\frac{f(x+h)-f(x)}{h}$

14. For $f(x) = x + 1$ and $g(x) = x^2$, find

(a) $(f \circ g)(x)$

(b) $(g \circ f)(x)$

15. Find the inverse of $y = 2x + 3$

16. Rationalize the denominator of $\frac{1}{\sqrt{3}-\sqrt{5}}$

NOTES:

- page 0-13 and 0-14 has some properties of exponents
- page 0-19 has some factoring techniques
- page 0-25 has some operations with fractions