

Algebra 2 Assessment

1. Simplify.

a) $(4x^2 - x + 9) - (6x - 3)$

b) $(3x + 5)(6x - 3)$

c) $(5x + 4)^2$

d) $\sqrt{12x^4y^7}$

e) $4\sqrt{8} + 7\sqrt{50}$

f) $\sqrt{\frac{2}{5}}$

g) $(5xy^5)(8x^3y^7)$

h) $(3xy^4)^3$

i) $\frac{2x^5y^{-2}}{6xy^6}$

j) $\frac{x^2-x-12}{x^2-16} \times \frac{x^2+6x+8}{x^2+4x+3}$

k) $\frac{3}{x-2} + \frac{6}{x+5}$

l) $\frac{6x^2}{4x^4-8x^2}$

2. Factor.

a) $3x^2 + 10x + 3$

b) $4x^2 - 16$

c) $6x^3 - 21x^2 - 12x$

3. Solve.

a) $(x + 8)(2x - 5) = 0$

b) $x^2 - x - 12 = 0$

c) $2x^2 + x = 5$

d) $\sqrt{x + 6} = x + 4$

e) $\frac{2}{3} = \frac{x+8}{x-5}$

f) $\frac{2}{x-1} + \frac{5}{x+3} = 3$

4. Write the equation of a line, in slope intercept that is perpendicular to the equation $3x + y = 7$ and goes through the point $(2, -5)$.

5. Find the x and y intercepts of the line $3x - 4y = 15$.

6. Solve the system of equations.

a) $y = 4x - 1$
 $2x + 3y = 11$

b) $5x - 2y = -13$
 $4x + 3y = 8$