Math 055 Exam #4

Factor completely. Show your work.

$10x^2 + 23xy + 12y^2$

Factor completely. Show your work.

$15x^3 - 20x^2y - 18xy^2 + 24y^3$

Factor completely. Show your work.

$-48 - 8x + 8x^2$

Factor completely. Show your work.

$x^2 - \frac{2}{15}x - \frac{1}{15}$

Factor completely. Show your work.

$20(p+5)^2 + 13(p+5) + 2$ Simplify.

Factor completely. Show your work.

$18a^4b - 98b^3$

Factor completely. Show your work.

$18x^4 - 288$

Solve the equation. Show your work.

$(x+2)(x+7) = 24$

Solve the equation. Show your work.

$x(x - 6)(x + 5) = 0$

Solve the equation. Show your work.

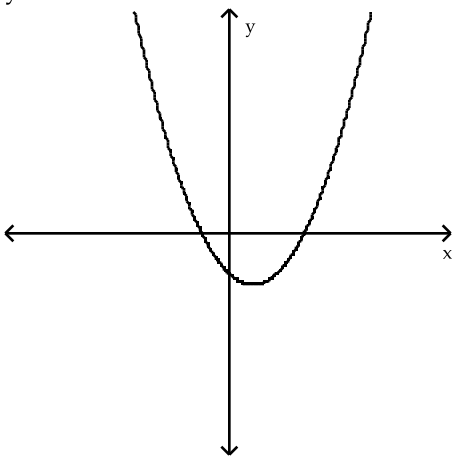
$2x^2 - 16x = -30$

Solve the equation. Show your work.

$\frac{1}{16}x^2 = \frac{9}{25}$

Find the all intercepts of the graph of the equation.

$y = x^2 - 5x - 24$



Solve the equation. Show your work.

Find three consecutive integers such that the square of the sum of the smaller two is 144 more than the square of the largest.

Solve the problem by first writing an equation.

The area of a square is numerically 5 more than the perimeter. Find the length of the side.

Simplify: $\dfrac{12x^5}{35y^6} \div \dfrac{6x^3}{25y^2}$

Simplify: $\dfrac{(a-b)^2}{a^2-b^2}$

Simplify: $\dfrac{x^2+2x+1}{3x-18} \cdot \dfrac{9x-54}{x^2+6x+5}$

Simplify: $\dfrac{xy}{\frac{1}{x^2}+\frac{1}{y}}$

Solve for t:

$$1+\frac{2}{7-t}=\frac{3}{t-7}$$

Solve for x:

$$1+\frac{1}{1+\frac{1}{x}}=3$$

Solve for x:

$$\frac{5}{x+2}+\frac{1}{x-2}=\frac{4}{x^2-4}$$

To estimate the number of deer in Rocky Mountain National Park, a naturalist catches, tags, and then releases 25 deer. Later, 36 deer are caught and four of them are tagged. What is her estimate?

Cathy bicycles 5 km/hr faster than Brian. In the time it takes Cathy to bike 57 km, Brian can bike 42 km. How fast does each person travel?

A water tank can be filled in 12 hours by pipe A alone, 9 hours by pipe B alone, and 6 hours by pipe C alone. How long would it take to fill the tank if all pipes were filling the tank at the same time?

A 6 foot man is standing next to a tree. The man casts a shadow that is 10 feet. The shadow of the tree is 55 feet. How tall is the tree?