Math122 College Algebra

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1.5
Other Types of Equations

- Some polynomial equations can be solved by factoring and using the zero-product property

- zero-product property – if a product equals 0, then at least one of the factors must equal 0

Problem

- Solve each of the following equations

1. $y^5 = 4y^3$

2. $a^3 + 3a^2 - 4a - 12 = 0$

- What happens if we first divide equation 1 by y^3

Problem

- Solve each of the following equations

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

2. $y - \frac{6}{y} = 1$

Problem

- Solve each of the following equations

1. $\frac{6}{x} + \frac{4}{x-2} = 6$

2. $2y = 1 - \sqrt{2 - y}$

Applications

- A small pond is stocked with fish. The fish population P is modeled by the formula $P = 2t + 2\sqrt{t} + 10$.

a) How many fish can we expect in the pond after 50 days?

Applications

- A small pond is stocked with fish. The fish population P is modeled by the formula $P = 2t + 2\sqrt{t} + 10.$

b) In how many days can we expect there to be 230 fish?