

The Final Quiz Review: Selected Topics From Linear, Exponential, Quadratic

Exponential

- Is essentially: Things that multiply over and over again
- Is usually about: Banks and babies

Mr. Sweeney had \$2000 in the KTH Bank. He withdrew the same percentage of money every month. By the end of five months, he had \$1,600 in the bank.

a) By what percent did his bank account decrease?

b) Which equation represents the amount of money in the bank account after t months?

(1) $f(t) = 2000(0.8)^t$

(2) $f(t) = 2000(0.8)^{\frac{t}{5}}$

(3) $f(t) = 2000(-0.2)^t$

(4) $f(t) = 2000(1.2)^{\frac{t}{5}}$

Linear

- Is essentially: Things that add or subtract over and over again
- Is usually about: Getting paid, spending money, driving places

Jackson is starting an exercise program. The first day he will spend 30 minutes on a treadmill. He will increase his time on the treadmill by 2 minutes each day.

Write an equation for $T(d)$, the time, in minutes, on the treadmill on day d .

Quadratic

- Is essentially: Parabolas
- Is usually about: Balls, rockets, rectangles, and number products

(a) Find the vertex of the quadratic below by *completing the square*:

$$y = x^2 - 12x + 26$$

(b) Solve the equation $x^2 - 12x + 26 = 0$ using your answer from (a) above. How many rational solutions does this equation have?