



UNIT 4 DAY 4 – APPLICATIONS OF SLOPE INTERCEPT FORM

2 TRIP TO NEW YORK CITY!!! - CALC ALLOWED 😊



1. You are visiting New York City and a taxi company charges a flat fee of \$3.50 for using the taxi, plus \$0.75 per mile.

a. Write an equation that represents the cost of the taxi.

$$y = .75x + 3.50$$

b. Define your variables in your equation.

$$x = \# \text{ of miles}$$

$$y = \text{cost}$$

c. How much would it cost you for an 8 mile trip?

$$y = .75(8) + 3.50 = \text{\$ } 9.50$$

d. If you paid \$42.00, how many miles did you travel?

$$42 = .75x + 3.50$$
$$51 \frac{1}{3} \text{ miles}$$

2. You are on the airplane home from New York, and your airplane is 30,000 feet above the ground when it starts its descent. It begins descending at a rate of 1500 ft per minute. Assume it continues at this same rate.



a. What is another word for rate of change? *Slope!*

b. Write the equation that represents the height of the plane

$$h = -1500m + 30000$$

c. Define your variables in your equation

$$h = \text{height}$$

$$m = \# \text{ of minutes}$$

d. After 6 minutes, find the altitude (height) of the plane.

$$h = -1500(6) + 30000$$
$$21000 \text{ ft}$$

e. How long does it take to get to an altitude of 7500ft.

$$7500 = -1500m + 30000$$
$$15 \text{ min}$$