Name: _____

Modeling Situations Using Linear Equations

TITAN WIRELESS

1.) Titan Wireless charges $0.11 per text message plus a flat monthly fee of $24.00 for their month-to-month cell phone plan.

a.) Write a linear function that models the cost of a monthly membership plan as a function of the number of text messages sent.

b.) Use your model to determine the monthly cost of a membership plan when 296 text messages are sent.

2.) Titan Wireless offers an annual family plan that charges $44.50 per family member in addition to a $197.95 annual fee.

a.) Write a linear function that models the cost of an annual family membership plan as a function of the number of family members on the plan.

b.) Use your model to determine the annual cost of a family plan that has 7 total members.

3.) Bryan works in sales for Tiran Wireless. Every day, he drives his car 123 miles from his home to the company headquarters.

a.) Write a linear function that models the total number of miles Bryan drives to and from work every day as a function of the number of days worked.

b.) Use your model to determine the total miles Bryan will have driven after 150 days of work.

1.)

  a.) $y = 0.11x + 24$ or $f(x) = 0.11x + 24$

  b.) $f(296) = 0.11(296) + 24 =$ **$56.56**

2.)

  a.) $y = 44.5x + 197.95$ or $f(x) = 44.5x + 197.95$

  b.) $f(7) = 44.5(7) + 197.95 =$ **$509.45**

3.)

  a.) Bryan's round trip is 2(123) = 246 miles travelled each work day

  $y = 246x$ or $f(x) = 246x$

  b.) $f(150) = 246(150) =$ **36,900 miles**