

Algebra I EOC Practice #5

SPI 3102.1.5: Recognize and express the effect of changing constants and/or coefficients in problem solving.

- Ben works at a shoe store. The equation $y = 15x + 60$ represents his daily earnings, y , based on selling x pairs of shoes. What is represented by the slope in this equation?
 - The total pairs of shoes that Ben sells each day
 - The total amount of money Ben earns each day
 - The amount of money Ben earns for each pair of shoes he sells
 - The amount of money Ben earns if he does not sell any shoes
- Which transformation occurs to the graph of $y = 2x + 5$ when the equation of the line changes to $y = -2x + 5$?
 - The line shifts to the left 2 units.
 - The line shifts down 2 units.
 - The line is reflected across the x -axis.
 - The line is reflected across the y -axis.
- Ally earns \$2,500 per month plus a commission of 7% of the total dollar amount of each sale she makes. Her total monthly earnings, P , are represented by the equation $P = 2,500 + 0.07t$, where t represents the total dollar amount of her sales for the month. Which equation will represent her total monthly earnings in dollars if her commission increases an additional 2%?
 - $P = 2,700 + 0.09t$
 - $P = 2,500 + 0.09t$
 - $P = 2,700 + 0.07t$
 - $P = 2,500 + 0.05t$
- Which transformation occurs to the graph of $y = -5x + 2$ when the equation of the line changes to $y = -5x - 3$?
 - The line shifts to the left 5 units.
 - The line shifts down 5 units.
 - The line is reflected across the x -axis.
 - The line is reflected across the x -axis.
- What transformation occurs to the graph of $y = 3x + 1$ when the equation of the line changes to $y = 6x + 1$?
 - The line becomes steeper.
 - The line becomes less steep.
 - The line shifts 3 units up.
 - The line shifts 3 units right.
- Jim and Sam are both spending the night with a cousin. The total number of miles Jim drives, J , including a 2.5 mile detour for lunch, is given by the equation $J = 65t + 2.5$. The total number of miles Sam drives, S , including a 1 mile detour to pick up another cousin, is given by the equation $S = 70t + 1$. If t represents the time in hours after each boy leaves home, which statement best compares Jim's speed to Sam's speed?
 - Jim's speed is 5 miles faster than Sam's.
 - Jim's speed is 1.5 miles faster than Sam's.
 - Jim's speed is 5 miles slower than Sam's.
 - Jim's speed is 1.5 miles slower than Sam's.