

Solving Multi-Step Equations

Solve each equation.

1) $4n - 2n = 4$

2) $-12 = 2 + 5v + 2v$

3) $3 = x + 3 - 5x$

4) $x + 3 - 3 = -6$

5) $-12 = 3 - 2k - 3k$

6) $-1 = -3r + 2r$

7) $6 = -3(x + 2)$

8) $-3(4r - 8) = -36$

9) $24 = 6(-x - 3)$

10) $75 = 3(-6n - 5)$

$$11) -3(1 + 6r) = 14 - r$$

$$12) 6(6v + 6) - 5 = 1 + 6v$$

$$13) -4k + 2(5k - 6) = -3k - 39$$

$$14) -16 + 5n = -7(-6 + 8n) + 3$$

$$15) 10p + 9 - 11 - p = -2(2p + 4) - 3(2p - 2)$$

$$16) -10n + 3(8 + 8n) = -6(n - 4)$$

$$17) 10(x + 3) - (-9x - 4) = x - 5 + 3$$

$$18) 12(2k + 11) = 12(2k + 12)$$

$$19) -12(x - 12) = -9(1 + 7x)$$

$$20) -11 + 10(p + 10) = 4 - 5(2p + 11)$$

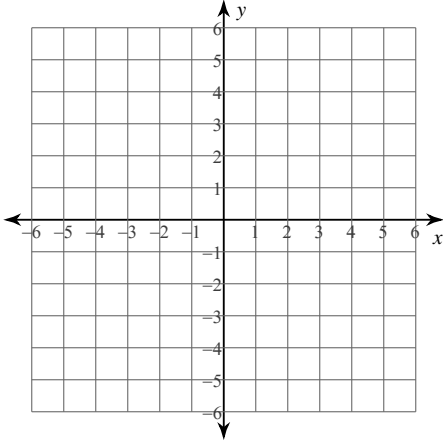
Critical thinking question:

21) Explain two ways you could solve $20 = 5(-3 + x)$

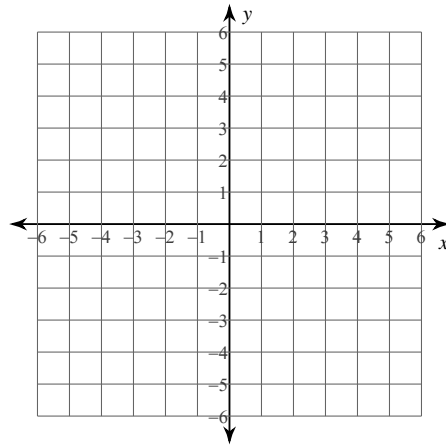
Graphing Lines in Slope-Intercept Form

Sketch the graph of each line.

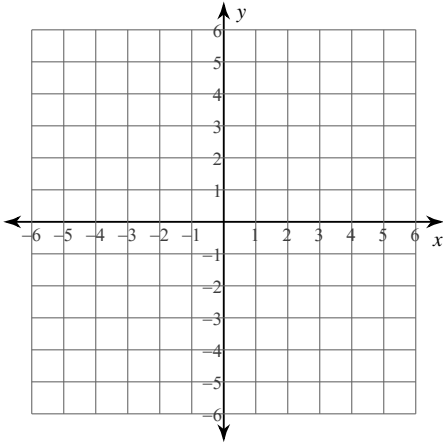
1) $y = \frac{1}{4}x - 1$



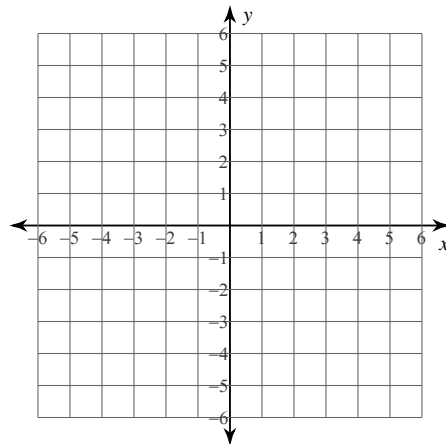
2) $y = -x + 2$



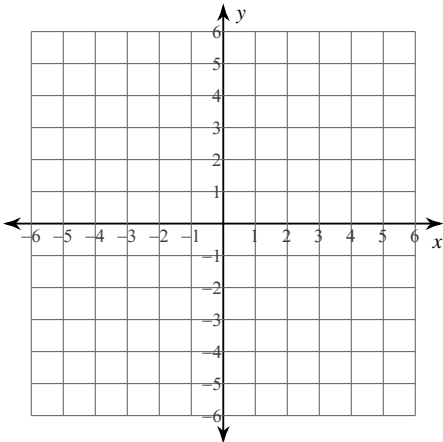
3) $y = x + 1$



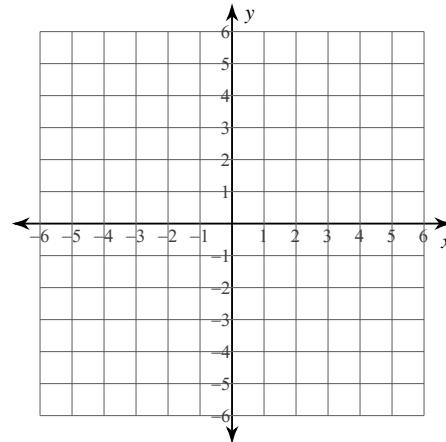
4) $y = \frac{4}{3}x - 4$



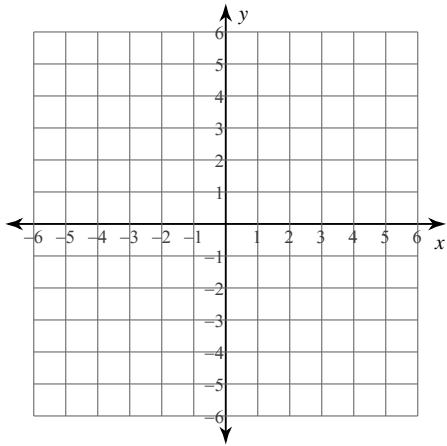
5) $y = -3x - 3$



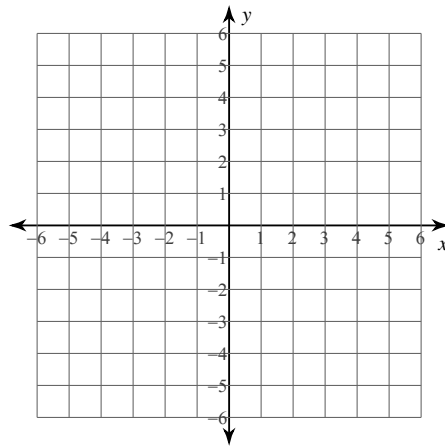
6) $y = 4$



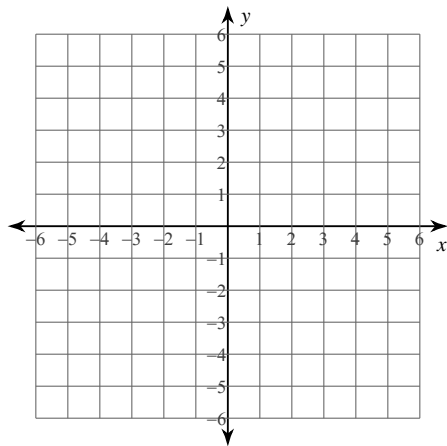
7) $y = \frac{3}{5}x - 1$



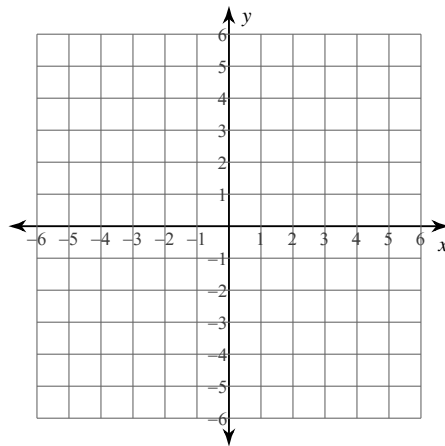
8) $x = 5$



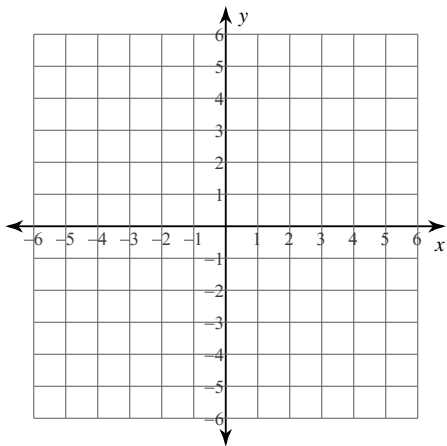
9) $y = 3$



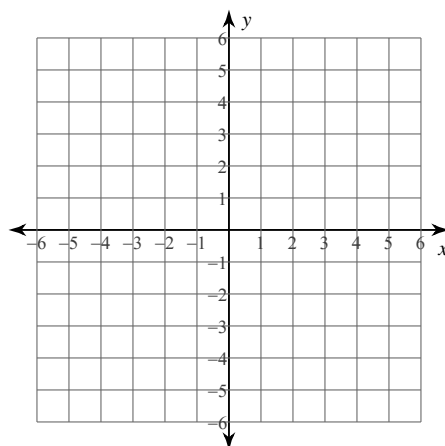
10) $y = 3x - 2$



11) $y = 4x + 3$



12) $y = \frac{6}{5}x + 5$



Task 1: Find the age and height (in inches) of 10 friends or family members. Create a table that shows the names, heights and ages of each of these participants. Then, create a graph, with age on one axis and height on the other axis. Are height and age correlated? Explain using examples from your data set. Suggestion: My height is 6 feet and 1 inch tall, however, my height *in inches* is 73 inches. Please list your calculations only in inches, and not in feet.

Task 2: Think about the fastest mile time that you ran last year. If it took you that long to run 1 mile, how long should it take you to run 5 miles? How long should it take you to run a marathon (26.2 miles)? How long would it take you to run 0 miles? Create a graph that represents the relationship between your time and miles you can run.

Task 3: Mr. Feinberg is considering a new cell phone plan. He currently has Verizon, which charges a base rate of \$60 for 6 gigabytes of shared data, and pays for a smart phone for his wife and himself which cost \$40 each. He is thinking of switching to AT&T, which has a base rate of \$40 for the same data and will only charge him \$30 for each of the smartphones. However, if he switches to AT&T he will have to buy new phones, because Verizon phones will not work on AT&T's network. Each new smartphone will cost \$200. If he stays on Verizon, he does not have to spend anything on new phones because the phones they have work fine. Which plan will be have a lower total cost after 1 month? Which plan will have a lower total cost after 12 months? When does one plan become a better deal than the other? Show your work using a table, graph or other representation.