1. $21 + x = 4x$

2. $\frac{5}{4}(x + 8) = 12$

Aug 24-9:29 PM

3. $16 - 10x = 21 - 2x$

4. $2(3x + 6) - 4(x - 2) = 24$

Aug 24-9:30 PM

5. $36 \geq -9 + 3x$

$+9 \quad +9$

$\frac{45}{3} \geq \frac{3x}{3}$

$15 \geq x$

$x \leq 15$

6. $1 - 3x < 19$

Aug 24-9:31 PM

7. $2(6 + 3x) \leq 4(2x - 5)$

$6 + 3x \leq 2(2x - 5)$

$6 + 3x \leq 4x - 10$

$-3x \quad -3x$

$6 \leq x - 10$

$+10 \quad +10$

$16 \leq x$

$x \geq 16$

8. $7x - 2(5x + 3) \geq 12$

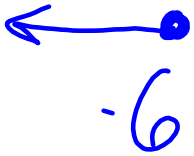
$7x - 10x - 6 \geq 12$

$-3x - 6 \geq 12$

$+6 \quad +6$

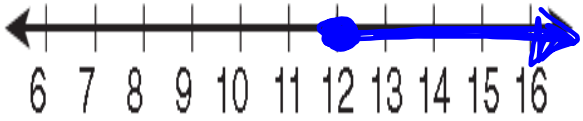
$\frac{-3x}{-3} \geq \frac{18}{-3}$

$x \leq -6$



Aug 24-9:31 PM

9. Joe has saved $42 to buy a mountain bike that costs $282. Joe gets paid $20 for each lawn he mows. How many lawns must Joe mow to have enough money to buy the bike?



$20x + 42 \geq 282$
$-42 \quad -42$

x = lawns Joe must mow

$\frac{20x}{20} \geq \frac{240}{20}$

$x \geq 12$

Aug 24-9:32 PM

10. $\frac{x}{6} = \frac{9}{2}$

11. $\frac{4}{6} = \frac{2x}{9}$

Aug 24-9:33 PM

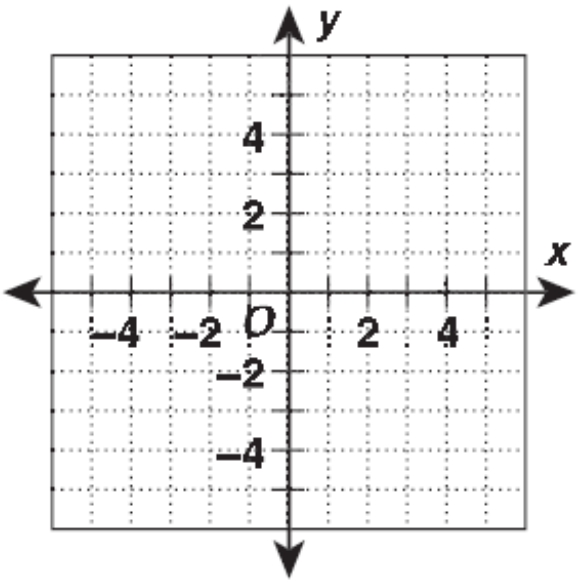
12. $\frac{4.8}{-x} = \frac{3.2}{3}$

13. $\frac{2}{3} = \frac{3}{2x - 2}$

14. A tree casts a 24-foot shadow at the same time that a 12-foot pole casts a 6-ft shadow. How tall is the tree? _____

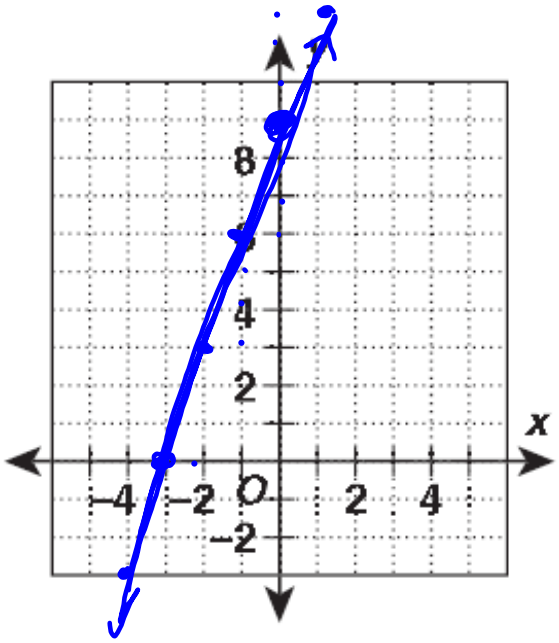
Aug 24-9:33 PM

15. $5x + 4y = 20$ _____



Aug 24-9:34 PM

16. $6x = -18$ ____



Slope-Int

$6x - 2y = -18$

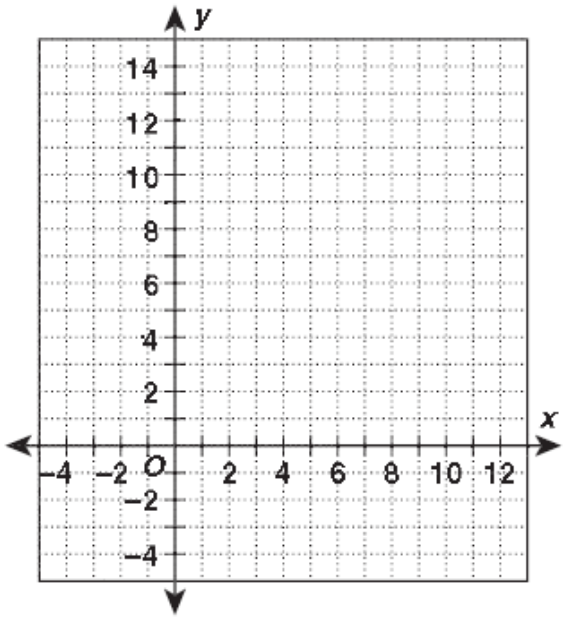
$-6x \qquad -6x$

$\frac{-2y}{-2} = \frac{-6x}{-2} - \frac{18}{-2}$

$y = 3x + 9$

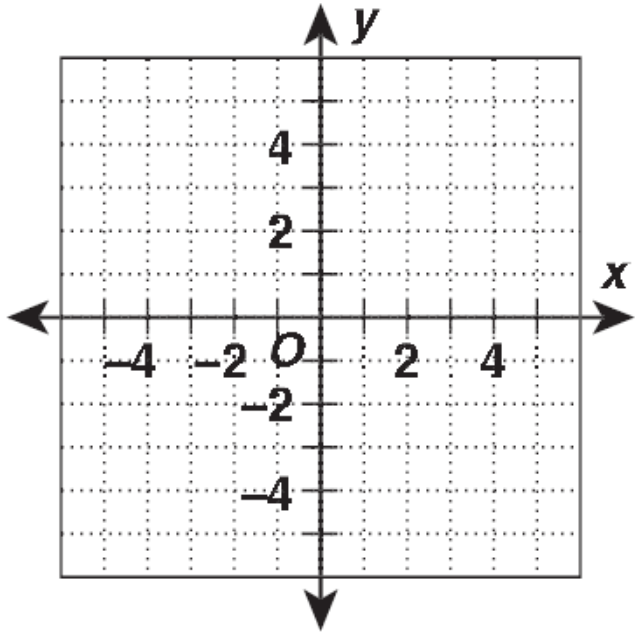
Aug 24-9:34 PM

17. $y - 6x = 12$ _____



Aug 24-9:34 PM

18. $4x - 12 - 6y = 0$ _____



Aug 24-9:34 PM

19. through (3, 11) and (5, 19) _____

20. slope $\frac{1}{3}$ and through (3, −5) _____

$m = 5/3$

21. ~~parallel to $y = \frac{5}{3}x - 2$ and through (−6, −1)~~ _____

22. perpendicular to $4x + 3y = 9$ and through (−4, −1)

$\frac{3y}{3} = -\frac{4x}{3} + \frac{9}{3}$

$y = -4/3x + 3$

$m = -4/3$ ⊥ $3/4$

$m = 3/4$

$y - (-1) = \frac{3}{4}(x - (-4))$

$y + 1 = \frac{3}{4}x + 3$

$y = \frac{3}{4}x + 2$

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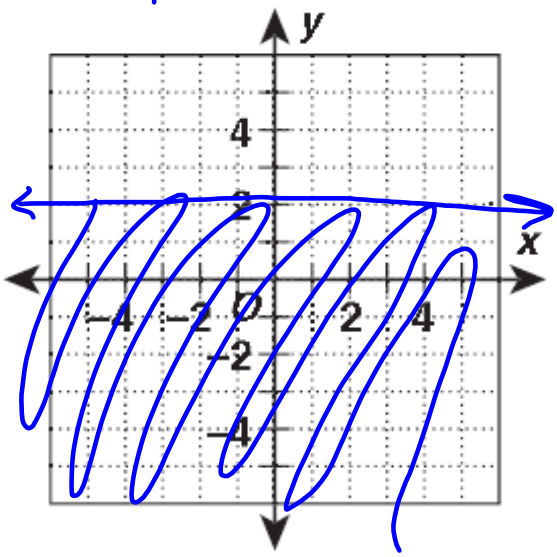
23. $y - 4 \leq -2$ _____

+4



$y \leq 2$

Aug 24-9:35 PM

$\geq$ Shade

$=$ above

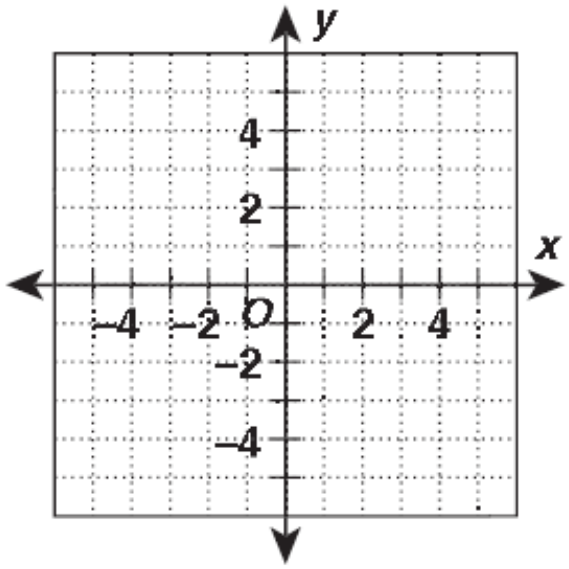
$>$

$\leq$ below

$<$

Aug 26-2:09 PM

24. $7x - 4y > 10x + 8$



Aug 24-9:35 PM

1. $f(x) = 3x$; vertical translation 3 units down _____

2. $f(x) = 4x$; vertical stretch by a factor of 4 _____

3. $f(x) = x + 2$; horizontal compression by a factor of $\frac{1}{4}$ followed by a horizontal translation left 8 units _____

4. $f(x) = 2x - 4$; horizontal translation 6 units right followed by a vertical compression by a factor of $\frac{1}{3}$ _____

right

$a = \frac{1}{3}$

$2(x-6)-4$

$2x-12-4$

$2x-16$

$g(x) = af(x)$

$\frac{1}{3}(2x-16)$

$g(x) = \frac{2}{3}x - \frac{16}{3}$

Aug 24-9:39 PM

3. $f(x) = x + 2$; horizontal compression by a factor of $\frac{1}{4}$ followed by a horizontal translation left 8 units

$\frac{1}{4} = b$

$g(x) = f(\frac{1}{b}x)$

$\div 1/4 = \times 4/1$

$f(x) = x + 2$

$g(x) = (\frac{1}{b}x) + 2$

$\frac{1}{(1/4)}x + 2$

$4x + 2$

$4(x-(-8)) + 2$

$4(x+8)+2$

$4x+32+2$

$g(x) = 4x + 34$

Aug 25-1:52 PM

$f(x) = x + 2$

$g(x) = f(\frac{1}{b}x)$

$g(x) = (\frac{1}{(1/4)}x) + 2$

$g(x) = 4x + 2$

$4(x-(-8)) + 2$

$4(x+8)+2$

$4x+32+2$

$g(x) = 4x + 34$

Aug 26-10:19 AM

$f(x) = x - 6$

g(x) is Vertical stretch by a factor of 3. Translated down 4 units

$g(x) = af(x)$

$3(x-6)$

$3x - 18 - 4$

$g(x) = 3x - 22$

h(x) is horizontal stretch by a factor of 2. Translated Right 1 unit.

$f(\frac{1}{a}x)$ $\frac{1}{2}x - 6$

$\frac{1}{2}(x-1) - 6$

$\frac{1}{2}x - \frac{1}{2} - 6$

$h(x) = \frac{1}{2}x - 6\frac{1}{2}$

Aug 26-10:23 AM

$(\frac{1}{b}x) + 2$

$\div \frac{1}{4} = \times 4$

1.4

$\frac{1}{(1/4)}x + 2$

$4x + 2$

$x+2$

$4(x-(-8)) + 2$

$4(x+8) + 2$

$4x + 32 + 2$

$g(x) = 4x + 34$

Aug 25-12:44 PM

5. A student has kept track of the relative humidity and the apparent room temperature. The results are shown in the table below.

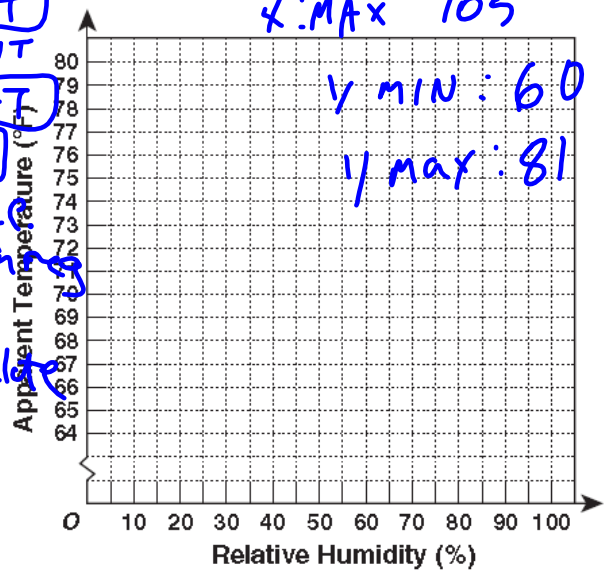
Relative Humidity (%)	Apparent Room Temperature, (°F)
0	64
10	65
20	67
30	68
40	70
50	71
60	72
70	73
80	74
90	75
100	76

L1 L2

STAT EDIT

STAT → CALC 4:LinReg ↓ calculate

X:MIN 0
X:MAX 105
Y MIN: 60
Y MAX: 81



Aug 24-9:40 PM

6. $|10 - 5x| = 30$

Aug 24-9:40 PM

7. $3|x| - 6 = 12$

$+6 \quad +6$

$\frac{3|x|}{3} = \frac{18}{3}$

$|x| = 6$

$x = -6 \quad x = 6$

Aug 24-9:40 PM

8. $\frac{|8x - 2|}{-3} = 9$ $\cdot -3$ $\cdot -3$

$|8x - 2| = -27$

Ø

Aug 24-9:41 PM

9. $|6x - 3| = x + 2$

$|-2\frac{1}{7}| = 2\frac{1}{7}$

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

$6x - 3 = -x - 2$ | $6x - 3 = x + 2$

$+x \quad +3 \quad +x \quad +3$ | $-x \quad +3 \quad -x \quad +3$

$\frac{7x}{7} = \frac{1}{7}$ | $\frac{5x}{5} = \frac{5}{5}$

$x = \frac{1}{7}$ | $x = 1$

Aug 24-9:41 PM

10. $|4x + 8| > 16$

$4x + 8 < -16$ | $4x + 8 > 16$

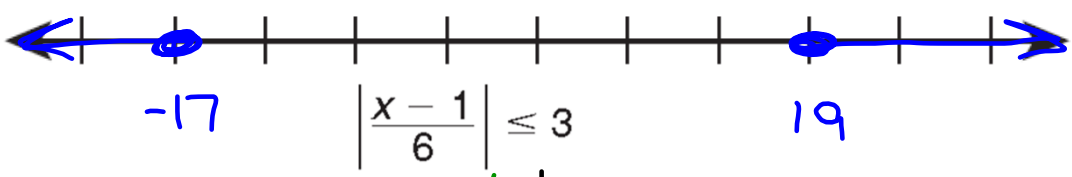
$-8 \quad -8$ | $-8 \quad -8$

$\frac{4x}{4} < \frac{-24}{4}$ | $\frac{4x}{4} > \frac{8}{4}$

$x < -6$ | $x > 2$

Aug 24-9:41 PM

11. $\left|\frac{x-1}{6}\right| \leq 3$



$\left|\frac{x-1}{6}\right| \leq 3$

$\frac{x-1}{6} \geq -3$ $\quad$ or $\quad$ $\frac{x-1}{6} \leq 3$

$\cdot 6 \quad \cdot 6$

$x-1 \geq -18$ $\quad$ $x-1 \leq 18$

$+1 \quad +1 \quad +1 \quad +1$

$x \geq -17$ $\quad$ $x \leq 19$

Aug 24-9:41 PM

12. $-2|3x-5|-6=12$

$+6 \quad +6$

$\frac{-21}{-2} \quad \frac{|18|}{-2}$ $\quad$ $-2x-6=12$

$|3x-5| = -9$

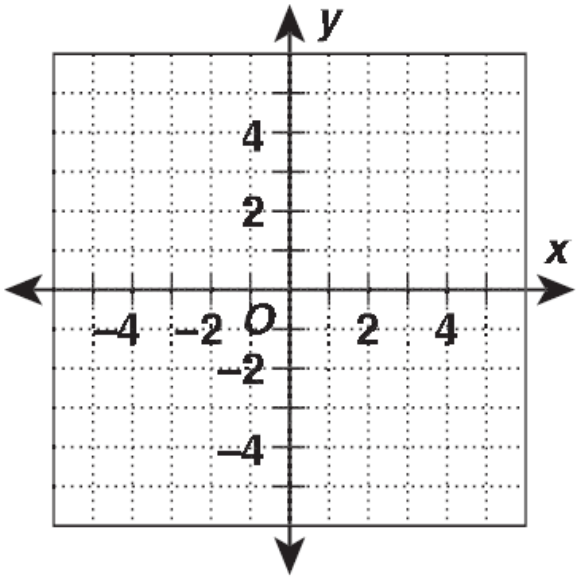
$\emptyset$

Aug 24-9:42 PM

13. $|6x - 2| + 4 < 22$ _____

Aug 24-9:42 PM

14. $(0, -3)$ _____



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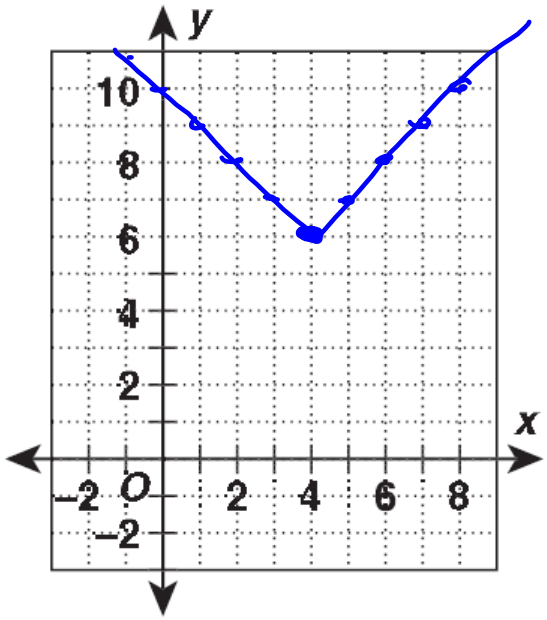
15. (4, 6) _____



$y = |x|$

(h, k)

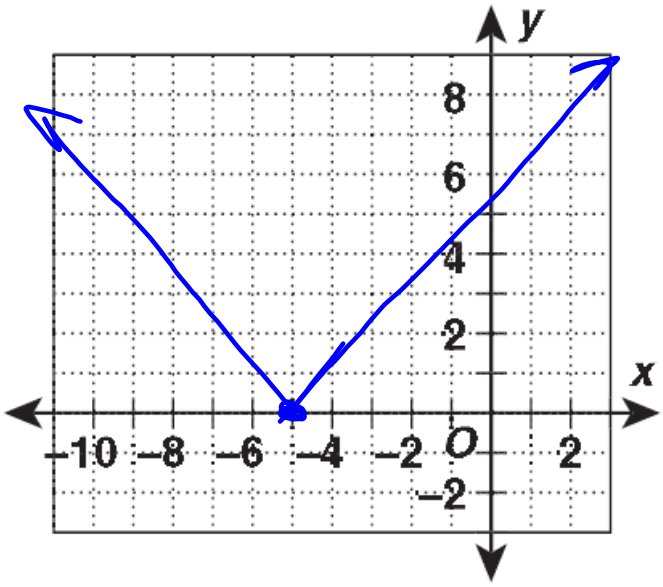
$(4, 6)$

$|x - h| + k$

$|x - 4| + 6$

Aug 24-9:43 PM

16. (−5, 0) _____



$|x - h| + k$

$|x + 5|$

Aug 24-9:43 PM

$|x-2|+4$

$(2, 4)$

Aug 26-2:02 PM

17. A cereal company fills every box with 48 ounces of cereal. The company allows each box of cereal to be within a tolerance of 0.5 ounces. What is an expression for the actual weight of the boxes?

$|x-48| \leq .5$

Aug 24-9:43 PM

$f(x) = 2x - 3$

$g(x)$ is vertical stretch by a factor of 3. Translated down 4 units of $f(x)$

$3(2x-3)$

$6x - 9 - 4$

$g(x) = 6x - 13$

$h(x)$ is a horizontal compression by a factor of $\frac{1}{6}$

Shifted Left 2 units

$2(\frac{1}{\frac{1}{6}}x) - 3$

$2(6x) - 3$

$12x - 3$

$12(x-(-2)) - 3$

$12(x+2) - 3$

$12x + 24 - 3$

$h(x) = 12x + 21$

Aug 26-10:16 AM