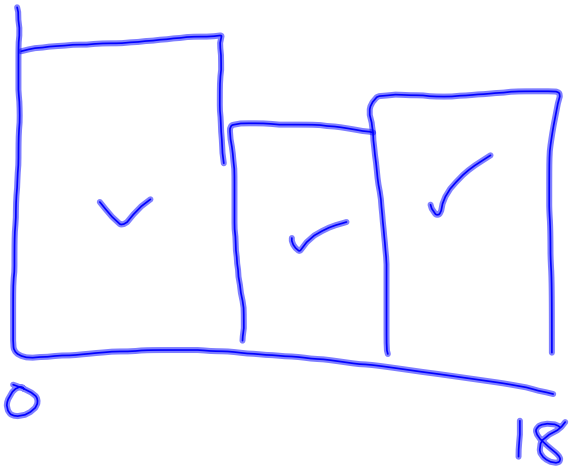
Quiz:

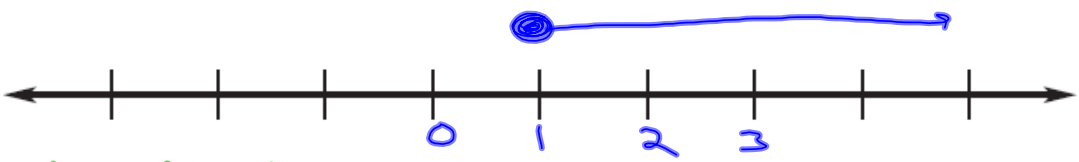


Add or subtract numbers to isolate variable, then divide by coefficient*

$2x + 4 \geq 6$

$-4 \quad -4$

$\frac{2x}{2} \geq \frac{2}{2}$ $\quad x \geq 1$



* Multiply or divide by a − number? Reverse the direction of the inequality...

Distribute first, then ... *

$$8y + 10 > 2(4y + 7) - 3$$

$$8y + 10 > 8y + 14 - 3$$

$$8y + 10 > 8y + 11$$

$$-10 \quad -10$$

$$8y > 8y + 1$$

$$-8y \quad -8y$$

$$0 > 1$$

NO solution

* Multiply or divide by −#, REVERSE INEQUALITY

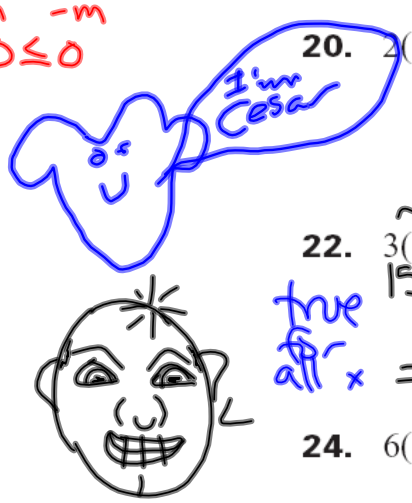
true for all #'s

17. $4m + 14 - 2m \leq 2(m + 7)$

$2m+14 \leq 2m+14$
$-14 \quad -14$
$\frac{2m}{2} \leq \frac{2m}{2}$
$m \leq m$
$-m \quad -m$
$0 \leq 0$

18. $-2(n - 3) \geq 1 - 2n + 5$

19. $4(3 - 2x) > 2(6 - 4x)$



20. $2(5 - a) > 4a + 13 - 6a$

21. $-4n + 11 < -4(n + 6)$

22. $3(5 - 6x) \leq 2(11 - 9x)$

$15 - 18x \leq 22 - 18x$
$+18 \quad +18$
$15 \leq 22 + 18x$
$-22 \quad -22$
$-7 \leq 0$

true for all x

23. $2m + 10 - 7m \leq 5(4 - m)$

24. $6(1-2n) \leq 5 - 12n$

21. $6x + 2 \leq 5x + 2$

23. $2x - 8 + 3x \geq 5x - 4$

25. $9a - 6a + 1 \leq 1 + 3a$

30. Weaving A weaver spends $420 on supplies to make wall hangings and plans to sell the wall hangings for $80 each.

a. Write an inequality that gives the possible numbers w of wall hangings the weaver needs to sell in order for the profit to be positive.

80 = price per hanging
420 = Supplies
w = # of paintings sold

paintings · 80 more than supplies
$80w > 420$

b. What are the possible numbers of wall hangings the weaver needs to sell in order for the profit to be positive?

$$\frac{80w}{80} > \frac{420}{80}$$

$w > 6$

Homework:
p. 372; 4 - 30 (even), 35, 37, 38