

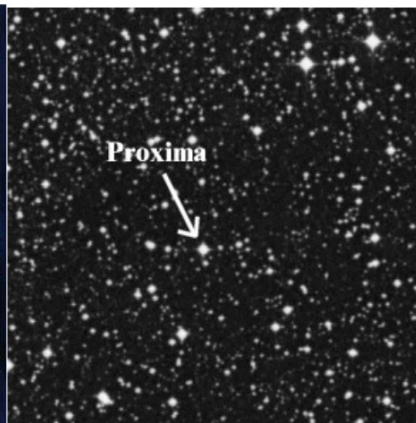
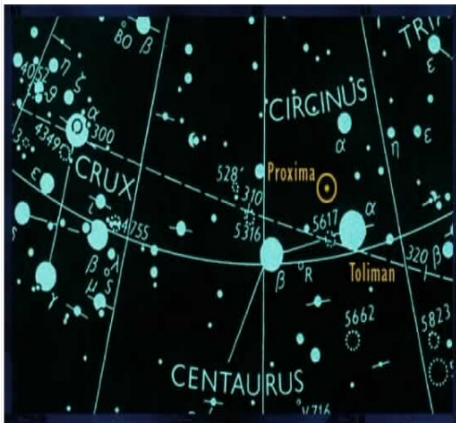
Algebra Bellwork - November 7, 2011

Solve each equation

$$3(c + 4) = 6$$

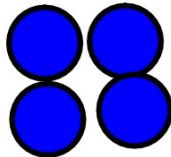
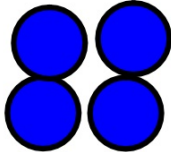
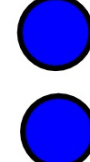
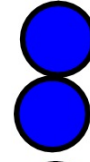
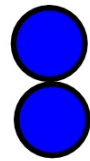
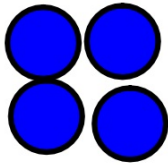
$$2t - 32 = 5t + 1$$

How long would it take a car driving 100 mph to reach the nearest star (assuming it never stops)?





$$3(c + 4) = 6$$



$$3(c + 4) = 6$$

$$\begin{array}{r} 3c + 12 = 6 \\ -12 \quad -12 \\ \hline \end{array}$$

$$\begin{array}{r} 3c = -6 \\ \frac{3c}{3} = \frac{-6}{3} \\ c = -2 \end{array}$$

- 1) Fractions/Decimals
- 2) Distribute
- 3) Combine Like Terms (CLT)
- 4) Undo Addition/Subtraction
- 5) Undo Multiplication/Division

$$\frac{2}{-2t} - 32 = 5t + 1$$

$$\frac{-32 = 3t + 1}{-1}$$

$$\frac{-33 = 3t}{3}$$

$$\boxed{-11 = t}$$

- 1) Fractions/Decimals
- 2) Distribute
- 3) Combine Like Terms (CLT)
- 4) Undo Addition/Subtraction
- 5) Undo Multiplication/Division

Objective: Today we will solve and graph multi-step **Inequalities** using properties of inequality.

Language Objective: Today we will explain in writing the necessary steps to solve various inequalities (see p.147 #36-39)

$$4(x + 2) - x \leq -12$$

$$4x + 8 - x \leq -12$$

$$3x + 8 \leq -12$$

$$x \leq \frac{-20}{3}$$

$$\frac{3x}{3} \leq \frac{-20}{3}$$

$$-3(x + 9) - 6x > -9$$

$$-3x - 27 - 6x > -9$$

$$-9x - 27 > -9$$

$$+27 \quad +27$$

$$-9x > 18$$

$$\frac{-9}{-9} \quad \frac{18}{-9}$$

$$x < -2$$

$$\begin{array}{r} -2x - 12 \geq 6x + 4 \\ + 2x \end{array}$$

$$\begin{array}{r} -12 \geq 8x + 4 \\ -4 \end{array}$$

$$\begin{array}{r} -16 \geq 8x \\ \hline x \end{array}$$

$$\boxed{-2 \geq x}$$

$$\boxed{x \leq -2}$$

$$2(x - 8) \leq 4(x - 5)$$

$$\cancel{2}x - 16 \leq \cancel{4}x - 20$$

$$-16 \leq \cancel{2}x - \cancel{20}$$

$$\frac{4}{2} \leq \frac{\cancel{2}x}{2} \quad \boxed{2 \leq x}$$

p.146 #3, 7, 13, 17, 19, 21, 23, 31, 35

Solve each inequality. Check your solution.

1. $4d + 7 \leq 23$

2. $5m - 3 > -18$

3. $-4x - 2 < 8$

4. $5 - 3n \geq -4$

5. $8 \leq -12 + 5q$

6. $5 \leq 11 + 3h$

7. $-7 \leq 5 - 4a$

8. $10 > 29 - 3b$

9. $5 - 9c > -13$

Solve each inequality.

12. $2(j - 4) \geq -6$

13. $-(6b - 2) > 0$

14. $-2(h + 2) < -14$

15. $-3 \leq 3(5x - 16)$

16. $25 > -(4y + 7)$

17. $4(w - 2) \leq 10$

18. $-3(c + 4) - 2 > 7$

19. $-2(r - 3) + 7 \geq 8$

20. $16 \leq 4 - 3(n - 13)$

21. $3w + 2 < 2w + 5$

22. $3t + 7 \geq 5t + 9$

23. $4d + 7 \geq 1 + 5d$

24. $5 - 2n \leq 3 - n$

25. $2k - 3 \leq 5k + 9$

26. $3s + 16 > 6 + 4s$

27. $6p - 1 > 3p + 8$

28. $3x + 2 > -4x + 16$

29. $2 - 3m < 4 + 5m$

30. $-3(v - 3) \geq 5 - 4v$

31. $3q + 6 \leq -5(q + 2)$

32. $3(2 + r) \geq 15 - 2r$

33. $9 + x < 7 - 2(x - 3)$

34. $2(m - 8) < -8 + 3m$

35. $2v - 4 \leq 2(3v - 6)$

Solve and graph the inequality.

$$3(x - 12) > 6(x - 5)$$