

Pre-Calculus 11 - VLN

Chapter 3: Quadratic Equations

Lesson 6: Linear Inequalities

Question #1

Reference Q.7285

Solve for x :

$$x + 7 < 13$$

Question #2

Reference Q.7286

Solve for x :

$$x - 8 < 2$$

Question #3

Reference Q.7287

Solve for x :

$$x + 5 > 3$$

Question #4

Reference Q.7288

Solve for x :

$$2x < 8$$

Question #5

Reference Q.7289

Solve for x :

$$2x + 5 > 7$$

Question #6

Reference Q.7290

Solve for x :

$$3x - 7 < 17$$

Question #7

Reference Q.7291

Solve for x :

$$\frac{1}{2}x + 18 < 13$$

Question #8

Reference Q.7292

Solve for x :

$$5(x - 3) \geq -15$$

Question #9

Reference Q.7293

Solve for x :

$$\frac{1}{3}(x - 5) \leq 31$$

Question #10

Reference Q.7294

Solve for x :

$$3x + 7 \leq 5x - 9$$

Question #11

Reference Q.7295

Solve for x :

$$-6x + 7 \geq 7x + 33$$

Question #12

Reference Q.7296

Solve for x :

$$2(6x + 15) \leq 3(8x + 22)$$

Question #13

Reference Q.7297

Solve for x :

$$-x \leq 9$$

Question #14

Reference Q.7298

Solve for x :

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

Question #15

Reference Q.7299

Solve for x :

$$-4x > 7$$

Question #16

Reference Q.7300

Solve for x :

$$-x + 3 < 55$$

Question #17

Reference Q.7301

Solve for x :

$$-\frac{x}{8} \geq 7$$

Question #18: Solving Linear Inequalities01

Reference Q.20389

Given the following linear inequality: $x - 2 < 5$

- Determine the critical point of this inequality by changing the inequality sign, $<$, to an equal sign, $=$, and solve for x .
- Place this critical point on a number line and test both sides to determine the solution of the inequality.

Question #19: Solving Linear Inequalities02

Reference Q.20390

Given the following linear inequality: $x + 1 < 2x - 2$

- Determine the critical point of this inequality by changing the inequality sign, $<$, to an equal sign, $=$, and solve for x .
- Place this critical point on a number line and test both sides to determine the solution of the inequality.

Question #20: Solving Linear Inequalities03

Reference Q.20391

Given the following linear inequality: $-4x < -x + 5$

- Determine the critical point of this inequality by changing the inequality sign, $<$, to an equal sign, $=$, and solve for x .
- Place this critical point on a number line and test both sides to determine the solution of the inequality.

Question #21: Solving Linear Inequalities04

Reference Q.20392

Given the following linear inequality: $3x - 6 \geq 2x - 8$

- Determine the critical point of this inequality by changing the inequality sign, $<$, to an equal sign, $=$, and solve for x .
- Place this critical point on a number line and test both sides to determine the solution of the inequality.

Question #22: Solving Linear Inequalities05

Reference Q.20393

Given the following linear inequality: $2.2x - 0.5 \leq 0.5x - 1$

- Determine the critical point of this inequality by changing the inequality sign, $<$, to an equal sign, $=$, and solve for x .
- Place this critical point on a number line and test both sides to determine the solution of the inequality.

Question #23: Solving Linear Inequalities06

Reference Q.20394

Given the following linear inequality: $-0.2x + 1.1 > -3x - 0.4$

- Determine the critical point of this inequality by changing the inequality sign, $<$, to an equal sign, $=$, and solve for x .
- Determine the solution to the inequality.

Question #24: Solving Linear Inequalities07

Reference Q.20395

Given the following linear inequality: $0.23x + 4 > -0.45x - 1$

- Determine the critical point of this inequality by changing the inequality sign, $<$, to an equal sign, $=$, and solve for x .
- Determine the solution to the inequality.

Question #25: Solving Linear Inequalities08

Reference Q.20396

Answer the following questions on the inequality: $2x - 5 < 2x - 10$

- Determine the solution to the inequality algebraically.
- Using what you know about lines, why is there is no solution?

Question #26

Reference Q.13991

A farmer grows 2 types of grain on his farm, which is 100 acres. He has a seed budget of \$5,000 and has spent \$1,300 to plant soy beans that take up 20% of the farm. If oat seeds cost \$52.00 per acre to plant, write and solve an inequality that represents the total acreage of oats the farmer can plant.

Question #27

Reference Q.13989

A grocery store sells milk for \$5.00 for the first gallon and \$3.50 for each additional gallon of milk. Write and solve a inequality that represents the maximum number of gallons someone can buy if she only has \$20.

Question #28

Reference Q.13992

A grocery store sells eggs for \$6.50 for the first dozen eggs and \$4.00 for each additional dozen. Write and solve an inequality that represents the maximum number of dozen eggs someone can buy if he only has \$30.

Question #29

Reference Q.13993

A farmer has a budget of \$7000 to spend on seed. He has already spent \$2100 on soy seed. If it costs \$64.00 per acre to plant oats, given his budget, how many acres of oats could he plant?

Create and solve an inequality to answer the question above.

Question #30

Reference Q.13990

It takes 10 minutes to set a table for dinner. If someone needs to set up the banquet hall with 20 tables, but he has only 90 minutes to set up all the tables, write and solve an inequality that represents the maximum number of tables that can be set up in 90 minutes.

Question #31

Reference Q.13994

Tim's meals are each 500 calorie, except for breakfast which is 200 calories. If Tim may only consume 2500 calories in a day, how many meals excluding breakfast may he eat? (Write and solve an inequality).

Question #32

Reference Q.13995

A company ships widgets for a flat fee of \$150. If Sally has \$400 to spend on widgets and each are costs \$3.50, write an inequality that represents the total number of widgets Sally buy and then solve it.

Question #33

Reference Q.13996

Joe has a current mark in his math course of 75%. The final exam is worth 30% of the course. If Joe needs to get 80% overall in the course write and solve an inequality that represents the minimum Joe must get on his final exam.

(Hint: If the final is worth 30%, the rest of the course is worth 70%)

Question #34

Reference Q.13997

Barb, the butcher, buys chicken at a rate of \$6.00 per pound. If shipping costs a flat fee of \$400 and Barb only has \$1000. How much chicken maximum can she buy? (Write and solve an inequality)

Question #35

Reference Q.13998

Bob eats only energy bars. Each bar is 250 calories. If Bob may only consume 1700 calories a day, write and solve an inequality that represents the maximum number of bars Bob may consume in a week. (Bob can have fractions of bars)