

KEY POINTS

Section 3.2 Solving Inequalities

- Inequality notation
- Solving inequalities

Warm - Up

Section 3.2
Solving
Inequalities

$$\frac{3}{2x-1} + \frac{5}{3-2x} = 0$$

Discussion

Section 3.2
**Solving
Inequalities**

What do you know about inequalities?

Discussion

Section 3.2
**Solving
Inequalities**

$<$ less than, no more than

$>$ greater than, at least, more than

\leq less than or equal to

\geq greater than or equal to

Examples

Section 3.2 Solving Inequalities

Write an inequality for each situation.

- a.) Her grade G must be greater than or equal to 70 and less than 75 in order to receive a C in the course.
- b.) The minimum speed on the highway, s , is 35 mph and the maximum speed is 65 mph.
- c.) The basketball team only considers players, P , who are at least 6 feet tall.

Examples

Section 3.2 Solving Inequalities

When we solve inequalities , we solve them the same way that we solve equations. This means we reduce inequalities to simpler inequalities having the same solutions.

Solve the equation: $4x + 5 = 29$

Solve the inequality: $4x + 5 < 29$

Warm-Up

Solve: $6x - 9 < 27$

Section 3.2
Solving
Inequalities

Practice

Solve the inequality: $-3x + 9 < 33$

Section 3.2
Solving
Inequalities

Examples

Section 3.2 Solving Inequalities

When we are working with inequalities there is a special rule that we need to follow when it comes to multiplication and division.

IF YOU HAVE TO MULTIPLY OR DIVIDE BY A NEGATIVE NUMBER, WE MUST REVERSE THE DIRECTION OF THE INEQUALITY TO KEEP THE STATEMENT TRUE.

$$6 - x < 8$$

Examples

Section 3.2
Solving
Inequalities

$$7 - 2x > 21$$

Examples

Section 3.2
Solving
Inequalities

$$-3(x + 4) + 6 > 10$$

Examples

Section 3.2
Solving
Inequalities

$$4 - (3x + 2) \geq 6 + x$$

Homework

Section 3.2
Solving
Inequalities

Pages 67
#1 - 22 all