MasterMath

Algebra

SOLVING INEQUALITIES

$y \geq 222$

$36 \neq 35$

$64 > 16$

$55 \leq x$

$15 < 125$

Solving Inequ

Inequalities

≠ means "does not equal"
15 ≠ 16
> means "is larger than"
16 > 15
≥ means "is larger than or equal to"
x ≥ 15
< means "is smaller than"
15 < 16
≤ means "is smaller than or equal to"
15 ≤ x

Solving Inequ

Inequalities

"x is greater than or equal to 2" $x \geq 2$

Solving Inequ

Rules for Solving Inequalities:

1. Make the same changes to both sides of the inequality
2. Isolate the variable
3. Combine Like Terms
4. Use the Inverse Operation to remove clutter away from variable
5. BUT, if your Inverse Operation is multiplication or division by a ***negative number***, the inequality sign reverses

< becomes >
> becomes <
≤ becomes ≥
≥ becomes ≤

Solving Inequ

Rules for Solving Inequalities:

3 > 1
3 (-2) < 1 (-2)
-6 < -2

or

1 < 4
1 ÷ (-2) > 4 ÷ (-2)
-½ > -2

or

x > 1
x * (-2) < 1 * (-2)
-2x < -2

Solving Inequ

Solve:

$3x > 15$

Solving Inequal

Solve:

$3x > 15$

$$\frac{3x}{3} > \frac{15}{3}$$

$$x > 5$$

Solving Inequal

Solve:

$-\frac{1}{3}y < 10$

Solving Inequal

Solve:

$-\frac{1}{3}y < 10$

$-\frac{1}{3}y < 10$

$\frac{y}{-3} < 10$

$\frac{-3y}{-3} > 10 \times (-3)$

$y > -30$

Solving Inequ

You try it!

$-2z > 5$

Solving Inequ

You try it!

$-2z > 5$

$\frac{-2z}{-2} < \frac{5}{-2}$

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

Solving Inequ

You try it!

You want to purchase a fishing rod for your father that costs $125. Fishing season begins in three weeks, but you've already saved $75. Write and solve an inequality to find the average amount you need to save each of the next three weeks in order to buy the fishing rod.

Solving Inequalities

You try it!

You want to purchase a fishing rod for your father that costs ($125). Fishing season begins in (three) weeks, but you've already saved ($75). ~~Write~~ and solve an inequality to find the average amount you need to save (s) each of the next three weeks in order to buy the fishing rod.

$3s \geq \$125 - \$75$

$3s \geq \$50$

$\frac{3s}{3} \geq \frac{\$50}{3}$

$s \geq \$16.67$

Solving Inequalities

You try it!

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Solving Inequalities