

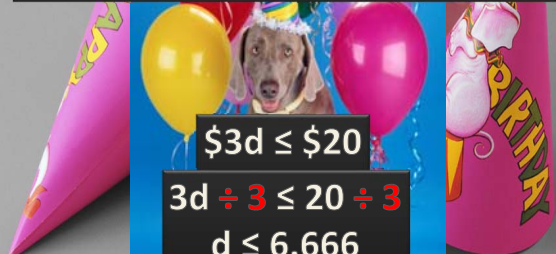
MasterMath

Algebra

Solving Inequalities with Multiplication and Division



\$20 = money for party
 \$3 = cost of party favors per dog
 d = number of guests



$3d \leq \$20$
 $3d \div 3 \leq 20 \div 3$
 $d \leq 6.666$

Solving Inequalities with Multiplication and Division

<p>$6 < 10$</p> <p>$6 * 2 < 10 * 2$</p> <p>$12 < 20$</p> <p>$16 > 10$</p> <p>$16 \div 2 > 10 \div 2$</p> <p>$8 > 5$</p>	<p>BUT</p> <p>$4 > 2$</p> <p>$4(-1) < 2(-1)$</p> <p>$-4 < -2$</p> <p>$4 > 2$</p> <p>$4 \div (-2) < 2 \div (-2)$</p> <p>$-2 < -1$</p>
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Solving Inequalities with Multiplication and Division

**SOLVING INEQUALITIES WITH
MULTIPLICATION AND DIVISION IS
JUST LIKE SOLVING EQUATION**

**EXCEPT WHEN YOU MULTIPLY OR
DIVIDE BOTH SIDES OF THE
INEQUALITY BY A NEGATIVE NUMBER.
THEN, YOU MUST REVERSE THE
INEQUALITY SIGN**

\gt \lt \geq \leq

Solving Inequalities with Multiplication and Division

$$2 - 4x \geq 12$$

$$2 - 4x - 2 \geq 12 - 2$$

$$-4x \geq 10$$

$$-4x \div (-4) \leq 12 \div (-4)$$

$$x \leq -3$$

Solving Inequalities with Multiplication and Division

Solving Inequalities with
Multiplication and Division

YOU
TRY
IT

Hit your Pause Key, try the problem, then hit your Forward Key to move to the answer.

Solve the Inequality: $3x > 9$;
graph the solution.

You try it!

You try it!

Solving Inequalities with Multiplication and Division

Solving Inequalities with Multiplication and Division

YOU TRY IT

$$3x > 9$$

$$3x \div 3 > 9 \div 3$$

$$x > 3$$

Solve the Inequality: $3x > 9$;
graph the solution

You try it!

Solving Inequalities with Multiplication and Division

YOU TRY IT

Hit your Pause Key, try the problem, then hit your Forward Key to move to the answer.

The school bus holds a maximum of 25 students. Write and solve an equation to find the least number of trips it would require to transport 227 kids.

You try it!

Solving Inequalities with Multiplication and Division

YOU TRY IT

$x =$ number of bus trips

$$25x \geq 227$$

$$25x \div 25 \geq 227 \div 25$$

$$x \geq 9.08$$

$$x \geq 10$$

The school bus holds a maximum of 25 students. Write and solve an equation to find the least number of trips it would require to transport 227 kids.

You try it!

Solving Inequalities with Multiplication and Division

YOU TRY IT

Hit your Pause Key, try the problem, then hit your Forward Key to move to the answer.

Solve the Inequality:
 $6 - 2z > 15$

You try it!

Solving Inequalities with Multiplication and Division

YOU TRY IT

Hit your Pause Key, try the problem, then hit your Forward Key to move to the answer.

$6 - 6 - 2x > 15 - 6$
 $-2x > 9$

Solve the Inequality:
 $6 - 2z > 15$

You try it!

$-2x \div (-2) < 9 \div (-2)$
 $x < -4.5$

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Solving Inequalities with Multiplication and Division
