

Inequality Worksheets

1. Brenda has \$500 in her bank account. Every week she withdraws \$40 for miscellaneous expenses. How many weeks can she withdraw the money if she wants to maintain a balance of at least \$200?

2. A scooter travels 10 miles per hour faster than an electric bicycle. The scooter traveled for 3 hours, and the bicycle traveled for $5\frac{1}{2}$ hours. Altogether, the scooter and bicycle traveled no more than 285 miles. Find the maximum speed of each

Inequality Worksheets

1.. Brenda has \$500 in her bank account. Every week she withdraws \$40 for miscellaneous expenses. How many weeks can she withdraw the money if she wants to maintain a balance of at least \$200?

Let the variable w represent the number of weeks.

$$500 - 40w \geq 200$$

$$500 - 500 - 40w \geq 200 - 500$$

$$-40w \geq -300$$

$$\left(-\frac{1}{40}\right)(-40w) \leq \left(-\frac{1}{40}\right)(-300)$$

$$w \leq 7.5$$

\$40 can be withdrawn from the account for seven weeks if she wants to maintain a balance of at least \$200.

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	<i>Speed</i>	<i>Time</i>	<i>Distance</i>
<i>Scooter</i>	$x + 10$	3	$3(x + 10)$
<i>Bicycle</i>	x	$5\frac{1}{2}$	$5\frac{1}{2}x$

$$3(x + 10) + 5\frac{1}{2}x \leq 285$$

$$3x + 30 + 5\frac{1}{2}x \leq 285$$

$$8\frac{1}{2}x + 30 \leq 285$$

$$8\frac{1}{2}x + 30 - 30 \leq 285 - 30$$

$$8\frac{1}{2}x \leq 255$$

$$\frac{17}{2}x \leq 255$$

$$\left(\frac{2}{17}\right)\left(\frac{17}{2}x\right) \leq (255)\left(\frac{2}{17}\right)$$

$$x \leq 30$$

The maximum speed the bicycle traveled was 30 miles per hour, and the maximum speed the scooter traveled was 40 miles per hour.

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