

**Algebra 1 Module 1 Lesson Five Test
Correct Answers**

1. According to the Texas Constitution, a senator must be at least 26 years of age. If a represents the age of the senator, which of the following inequalities represents the relationship?		
A $a \geq 26$	Correct! The age of the senator is greater than or equal to 26 years.	
B $a \leq 26$		Incorrect. The age of the senator is at least, or more than or equal to, 26 years.
C $a < 26$		Incorrect. The age of the senator is at least, or more than or equal to, 26 years.
D $a > 26$		Incorrect. The age of the senator may be equal to 26 years.
2. The wage for mowing lawns in a certain community is at most \$15.75 per hour. If h represents the hourly wage for mowing lawns, which of the following inequalities represents the relationship?		
A $h \geq 15.75$		Incorrect. The hourly wage is at most, or smaller than or equal to, \$15.75.
B $h \leq 15.75$	Correct! The hourly wage is less than or equal to \$15.75.	
C $h < 15.75$		Incorrect. The hourly wage may be equal to \$15.75.
D $h > 15.75$		Incorrect. The hourly wage is at most, or smaller than or equal to, \$15.75.

<p>3. Kahreem wants to save at least $\frac{3}{4}$ of his allowance during the summer. If he will earn a total of x dollars allowance during the summer, which inequality can Kahreem use to determine y, the amount of his allowance he can save by the end of the summer?</p>		
A $y \geq x - \frac{3}{4}$		Incorrect. Kahreem wants to save at least $\frac{3}{4}$ of his summer allowance. The word <i>of</i> means to multiply.
B $y \geq x + \frac{3}{4}$		Incorrect. Kahreem wants to save at least $\frac{3}{4}$ of his summer allowance. The word <i>of</i> means to multiply.
C $y < \frac{3}{4}x$		Incorrect. Kahreem wants to save at least $\frac{3}{4}$ of his summer allowance.
D $y \geq \frac{3}{4}x$	Correct! Kahreem wants to save an amount greater than or equal to $\frac{3}{4}$ of his summer allowance.	
<p>4. The student council wants to collect more than 700 cans of food for the local food bank by Wednesday afternoon. On Monday, the students brought 250 cans of food and on Tuesday they brought 300. If w represents the number of cans of food collected on Wednesday, write an inequality to describe how many blankets the students must bring on Wednesday in order to meet the goal.</p>		
A $250 + 300 \geq 700$		Incorrect. The students bring cans of food on Wednesday as well and this number should be included in the sum.
B $250 + 300 + w \geq 700$		Incorrect. The goal for the student council is to collect more than 700 cans of food.
C $250 + 300 + w \leq 700$		Incorrect. The goal for the student council is to collect more than 700 cans of food.
D $250 + 300 + w > 700$	Correct! The student council wants to collect more than 700 cans of food. So, the sum of the number collected on Monday, Tuesday, and Wednesday should be greater than 700.	

<p>5. The Nguyen family is traveling to visit friends in Louisiana. The total trip is 175 miles. The family has already driven x miles of the trip to Louisiana. If they drive below 65 miles per hour for the remainder of the trip, which inequality best represents the amount of time in hours, t, that it will take them to complete the remainder of the drive?</p>		
<p>A</p> $t > \frac{175 - x}{65}$	<p>Correct! The remaining distance left to travel is $175 - x$. If the family drove 65 mph, then the amount of time it would take is $\frac{175 - x}{65}$. Since they are traveling at a rate of speed less than 65, then t must be greater than $\frac{175 - x}{65}$.</p>	
<p>B</p> $t < \frac{175 - x}{65}$		<p>Incorrect. Since they are traveling at a rate of speed less than 65, then t must be greater than $\frac{175 - x}{65}$.</p>
<p>C</p> $t > \frac{65}{175 - x}$		<p>Incorrect. To calculate the remaining time left on the trip, divide the remaining distance by the rate of speed.</p>
<p>D</p> $t < \frac{65}{175 - x}$		<p>Incorrect. To calculate the remaining time left on the trip, divide the remaining distance by the rate of speed.</p>

<p>6. A printer charges \$8.00 to set up each job and an additional \$6.00 per box of 20 invitations printed. Write an inequality to determine the greatest number of boxes of invitations that could be printed for under \$100.</p>		
A $100 > 8 - 6x$		Incorrect. To determine the total charge, find the sum of the set up charge and the charge per box.
B $100 > 8 + 6x$	Correct! The sum of the set up charge and the charge per box must be less than \$100.	
C $100 \geq 8 + 6x$		Incorrect. The sum of the set up charge and the charge per box cannot be equal to \$100.
D $100 < 8 + 6x$		Incorrect. The sum of the set up charge and the charge per box must be less than \$100.