



## SOLVING ONE-STEP EQUATIONS & ONE-STEP INEQUALITIES

### ANSWER KEY

#### EXTENDED LEARNING

1. Texans wide receiver Brandin Cooks is 71 inches tall. His teammate Brevin Jordan's height in inches,  $h$ , can be determined by solving the equation  $h-4=71$ . What does the equation tell us about these two players' heights in relationship to each other? What is Brevin Jordan's height?

Brandin is 4 inches shorter than Brevin Jordan  
or Brevin Jordan is 4 inches taller than Brandin.

$$\begin{array}{r} h - 4 = 71 \\ + 4 \quad + 4 \\ \hline h = 75 \end{array}$$

Brevin is 75 inches tall.  
(6 feet, 3 inches)

2. In 2020, Texans running back David Johnson rushed the ball for 147 plays and gained an average of 4.7 yards on each play. The equation below represents the relationship between  $t$ , the total number of yards rushed by Mr. Johnson, and his average gain for each play. How many yards rounded to the next whole number did Mr. Johnson rush over the 147 plays?

$$\frac{t}{147} = 4.7$$

$$147 \cdot \frac{t}{147} = 4.7 \cdot 147$$

$$t = 691 \text{ yards}$$



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3. The Houston Texans Cheerleaders rehearse their routines each week. The number of hours they practice each week can be determined by solving the inequality  $60r \geq 540$ . What is the minimum number of hours the Cheerleaders rehearse each week?

$$\frac{60r}{60} \geq \frac{540}{60}$$

$$\geq$$

9 hours

4. A sack in football occurs when a defensive player tackles the quarterback for a loss of yards on a play. Hall of Fame defensive end Bruce Smith holds the current record for the most career sacks with 200. The inequality below represents the minimum number of sacks,  $s$ , Whitney Mercilus must make to break Bruce Smith's record. How many sacks must Whitney Mercilus make to break the current record for most career sacks?

$$54 + s > 200$$

$$\begin{array}{r} 54 + s > 200 \\ - 54 \quad - 54 \\ \hline > \\ 146 \text{ sacks} \end{array}$$

### ENRICHMENT

Use a Stats Report to write a problem and a one-step equation or one-step inequality comparing the performance of the Texans to the performance of the opposing team. Trade problems with another student in the class and solve the problem.