Part I *Write the letter for the correct answer in the blank at the right of each question.*

For Questions 1-5, solve each inequality.

1. $r - \frac{3}{7} > 1$

$+\frac{3}{7} \quad +\frac{3}{7}$

$r > 1\frac{3}{7}$ or $\frac{10}{7}$

$6 \geq x$ or

$x \leq 6.$

1. _____

2. $12x + 12 \geq 15x - 6$

$-12x + 6 \quad -12x + 6$

$\frac{18}{3} \geq \frac{3x}{3}$

2. _____

3. $4m - 2(7 + 3m) > 5(2m - 3) - m$

$4m - 14 - 6m > 10m - 15 - m$

$-2m - 14 > 9m - 15$

$\rightarrow -2m - 14 > 9m - 15$

$-9m + 14 - 9m + 14$

$-11m > -1$

$\dfrac{-11m}{-11} \quad \dfrac{-1}{-11}$

$m < \dfrac{1}{11}$

3. _____

$\dfrac{5}{3}$

4. $\dfrac{3n}{5} \leq 6 \cdot \dfrac{5}{3}$

$\dfrac{5}{3}$

$n \leq 10$

4. _____

$3t - 2t + 2 \geq 5t - 4 - 4t + 6 \Rightarrow t + 2 \geq t + 2$

$-t \quad -t$

$2 \geq 2$

5. $3t - 2(t - 1) \geq 5t - 4(1 + t) + 6$

$A\ \{t \mid t \leq -\dfrac{5}{7}\}$ $\qquad$ $C\ \{t \mid \text{all real numbers}\}$

$B\ \{t \mid t \leq \dfrac{3}{4}\}$ $\qquad$ $D\ \varnothing$

C

5. _____

Part II

6. Solve the inequality $3.2 > -7 + t$. Check your solution.

$\rightarrow$ 10. $2 > t$

$\underline{-2 \quad +2}$

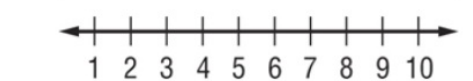7. Solve the inequality $2x + 3 > 9$. Then graph the solution set. $\rightarrow \dfrac{2x}{2} > \dfrac{6}{2}$

$\underline{-3 -3}$

$x > 3$

Define a variable, write an inequality, and solve each problem.

8. For a package to qualify for a certain postage rate, the sum of its length and girth cannot exceed 78 inches. If the girth is 47 inches, how long can the package be?

$x + 47 \leq 78$ length + girth ≤ 78

9. The minimum daily requirement of vitamin C for 14-year-olds is at least 60 milligrams per day. An average-sized apple contains 8 milligrams of vitamin C. How many apples would a person have to eat each day to satisfy this requirement?

$\dfrac{8x}{8} \geq \dfrac{60}{8}$

47

$x \geq 7.5$ or at least 8 apples

6. $t < 10.2$

$x > 3$

7.

1 2 3 4 5 6 7 8 9 10

8. $x \leq 31$

9.