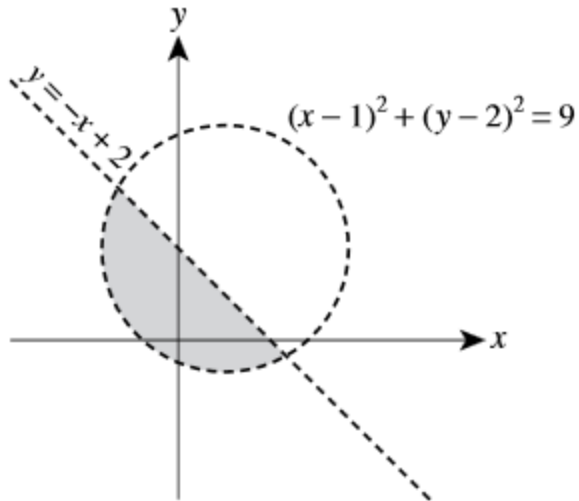


**Titan Learning Center
Mathematics ACT Prep
Set A Week 10**

Solve each problem, circling the correct answers. Remember that figures are not necessarily drawn to scale.

1. The shaded region in the graph below represents the solution set to which of the following systems of inequalities?

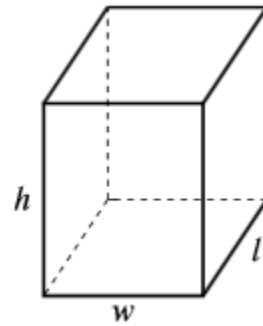


- A. $\begin{cases} y < -x + 2 \\ (x - 1)^2 + (y - 2)^2 < 9 \end{cases}$
- B. $\begin{cases} y > -x + 2 \\ (x - 1)^2 + (y - 2)^2 < 9 \end{cases}$
- C. $\begin{cases} y > -x + 2 \\ (x - 1)^2 + (y - 2)^2 > 9 \end{cases}$
- D. $\begin{cases} y < -x + 2 \\ (x - 1)^2 + (y - 2)^2 > 9 \end{cases}$
- E. $\begin{cases} (y - 2) < 3 \\ (x - 1) > 3 \end{cases}$
2. Which of the following is the solution statement for the inequality shown below?

$$-5 < 1 - 3x < 10$$

- F. $-5 < x < 10$
- G. $-3 < x$
- H. $-3 < x < 2$
- J. $-2 < x < 3$
- K. $x < -3$ or $x > 2$

3. A formula for the surface area (A) of the rectangular solid shown below is $A = 2lw + 2lh + 2wh$ where l represents length; w , width; and h , height. By doubling each of the dimensions (l , w , and h), the surface area will be multiplied by what factor?

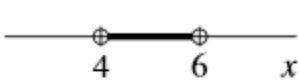
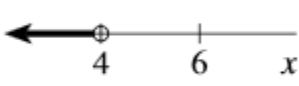
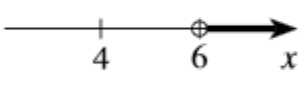

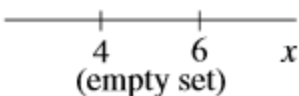


- A. 2
- B. 4
- C. 6
- D. 8
- E. 12

4. A dog eats 7 cans of food in 3 days. At this rate, how many cans of food does the dog eat in $3 + d$ days?

- F. $\frac{7}{3} + d$
- G. $\frac{7}{3} + \frac{d}{3}$
- H. $\frac{7}{3} + \frac{7}{3d}$
- J. $7 + \frac{d}{3}$
- K. $7 + \frac{7d}{3}$

5. Which of the following number line graphs shows the solution set to the inequality $|x - 5| < -1$?

- F. 
- G. 
- H. 
- J. 
- K. 

TLC Stamp

