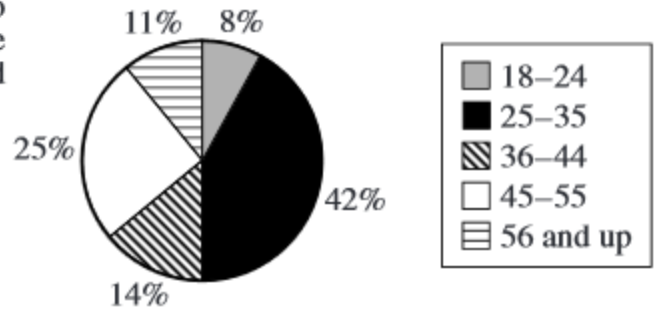


**Titan Learning Center
Mathematics ACT Prep
Set B-Week 9**

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

1. The circle graph below shows the distribution of registered voters, by age, for a community. Registered voters are randomly selected from this distribution to be called for jury duty. What are the odds (in the age range: not in the age range) that the first person called for jury duty is in the age range of 25–35 years?

Distribution of Registered Voters by Age



- A. 1:3
- B. 7:8
- C. 7:43
- D. 21:29
- E. 42:25

2. For what value of a would the following system of equations have an infinite number of solutions?

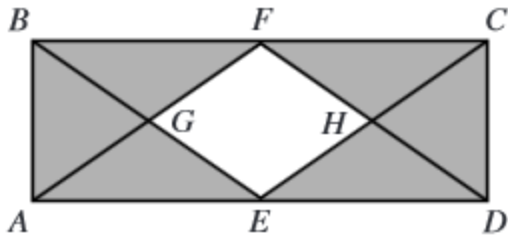
$$\begin{aligned} 2x - y &= 8 \\ 6x - 3y &= 4a \end{aligned}$$

- A. 2
- B. 6
- C. 8
- D. 24
- E. 32

3. What is the surface area, in square inches, of an 8-inch cube?

- F. 512
- G. 384
- H. 320
- J. 256
- K. 192

4. In the figure below, points E and F are the midpoints of sides \overline{AD} and \overline{BC} of rectangle $ABCD$, point G is the intersection of \overline{AF} and \overline{BE} , and point H is the intersection of \overline{CE} and \overline{DF} . The interior of $ABCD$ except for the interior of $EGFH$ is shaded. What is the ratio of the area of $EGFH$ to the area of the shaded region?



- F. 1:2
G. 1:3
H. 1:4
J. 1:6
K. Cannot be determined from the given information
5. What is the sum of the first 4 terms of the arithmetic sequence in which the 6th term is 8 and the 10th term is 13 ?

- F. 10.5
G. 14.5
H. 18
J. 21.25
K. 39.5

TLC Stamp

