

Name: *Key*

5-a-day ACT prep #8

Solve each problem, show your work, and then choose the correct answer.

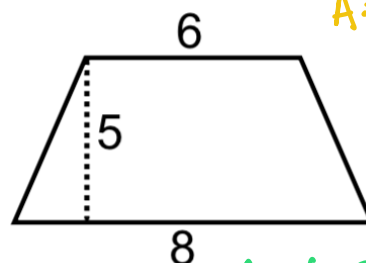
Do not linger over problems that take too much time. Solve as many as you can; then return to the others in the time you have left for this test.

You are permitted to use a calculator on this test. You may use your calculator for any problems you choose, but some of the problems may best be done without using a calculator.

Note: Unless otherwise stated, all of the following should be assumed.

1. Illustrative figures are NOT necessarily drawn to scale.
2. Geometric figures lie in a plane.
3. The word *line* indicates a straight line.
4. The word *average* indicates arithmetic mean.

1. What is the area of the trapezoid shown below?



$$A = \frac{a+b}{2}h$$

$$A = \frac{6+8}{2}(5) = 7(5) = 35$$

- A. 32.5
- B. 35
- C. 37.5
- D. 40
- E. Cannot be determined.

2. What is the slope of a line containing the points $(-2, 10)$ and $(4, -5)$?

$$A. -\frac{5}{2}$$

$$B. -\frac{5}{6}$$

$$C. -\frac{2}{5}$$

$$D. \frac{5}{6}$$

$$E. \frac{15}{2}$$

$$\text{slope} = \frac{y_2 - y_1}{x_2 - x_1}$$

$$m = \frac{-5 - 10}{4 - (-2)} = \frac{-15}{6} = -\frac{5}{2}$$

3. The ratio of boys to girls in Mr. Chidester's class is 7:5. If there are 10 girls in the class, what is the total number of students in the class?

- A. 14
- B. 24
- C. 31
- D. 35
- E. None of these

$$\begin{array}{l} 7:5 \\ 14:10 \\ \hline 24 \text{ total} \end{array}$$

4. What is the solution to the inequality $-2(x - 4) > -4$?

$$A. x < 2$$

$$B. x > 2$$

$$C. x < 6$$

$$D. x > 6$$

E. All real numbers.

$$\begin{array}{l} -2x + 8 > -4 \\ -8 \quad -8 \\ \hline -2x > -12 \\ \hline x < 6 \end{array}$$

5. Mack slept for $1\frac{1}{2}$ hours on Saturday and $2\frac{2}{3}$ hours on Sunday. How much longer did he sleep on Sunday than Saturday?

- A. 55 minutes
- B. 60 minutes
- C. 65 minutes
- D. 70 minutes
- E. 75 minutes

$$\begin{array}{l} 1 \text{ hr } 30 \text{ min} \\ 2 \text{ hrs } 40 \text{ min} \\ \hline 1 \text{ hr } 10 \text{ min} \end{array}$$