

## CALCULATOR EXERCISE

This exercise is designed to illustrate when and when not to use your calculator. Make sure that the calculator you bring to the ACT test is one with which you are thoroughly familiar. (For more detailed information on calculator usage, including specific models that are prohibited on the test, go to <http://www.actstudent.org>.) Although no item requires the use of a calculator, a calculator may be helpful at times. It may be useful for any item that involves complex arithmetic computations, but it cannot take the place of understanding how to set up a mathematical item. The degree to which you can use your calculator will depend on its features. Answers are on page 438.

**DIRECTIONS:** Label each of the items that follow according to one of the following categories. Then solve each item.

Category 1: A calculator would be very useful (it would save valuable test time).

Category 2: A calculator might or might not be useful.

Category 3: A calculator would be counterproductive (it would waste valuable test time).

- What is the average of 8.5, 7.8, and 7.7?
  - 8.3
  - 8.2
  - 8.1
  - 8.0
  - 7.9
- If  $0 < x < 1$ , which of the following has the greatest value?
  - $x$
  - $2x$
  - $x^2$
  - $x^3$
  - $x + 1$
- If 4.5 pounds of chocolate cost \$10, how many pounds of chocolate can be purchased for \$12?
  - $4\frac{3}{4}$
  - $5\frac{2}{5}$
  - $5\frac{1}{2}$
  - $5\frac{3}{4}$
  - 6
- What is the value of  $\frac{8}{9} - \frac{7}{8}$ ?
  - $\frac{1}{72}$
  - $\frac{1}{8}$
  - $\frac{1}{7}$
  - $\frac{15}{72}$
  - $\frac{15}{7}$

5. Which of the following fractions has the greatest value?

- A.  $\frac{111}{221}$
- B.  $\frac{75}{151}$
- C.  $\frac{333}{998}$
- D.  $\frac{113}{225}$
- E.  $\frac{101}{301}$

6. Dr. Leo's new office is 2.8 yards by 4 yards. She plans to run a decorative border around the perimeter of the office. How many yards of wallpaper border should she purchase?

- F. 8.0
- G. 13.2
- H. 13.6
- J. 14.2
- K. 16.7

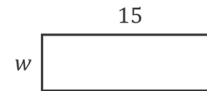
7. What is the value of  $\frac{2}{3} - \frac{5}{8}$ ?

- A. 1
- B.  $\frac{15}{16}$
- C.  $\frac{3}{24}$
- D.  $\frac{1}{24}$
- E.  $\frac{1}{100}$

8. If  $3x + y = 33$  and  $x + y = 17$ , then what is the value of  $x$ ?

- F. 8
- G. 12
- H. 16
- J. 24
- K. 33

9. If the perimeter of the rectangle below is 40, what is its area?



- A. 5
- B. 15
- C. 25
- D. 45
- E. 75

10. If the price of a book increases from \$10.00 to \$12.50, what is the percent increase in price?

- F. 2.5%
- G. 12.5%
- H. 25%
- J. 33%
- K. 50%