

Review 5  
CM/M12

5. If  $f(x) = (3x + 7)^2$ , then  $f(1) = ?$
- A. 10
  - B. 16
  - C. 58
  - D. 79
  - E. 100

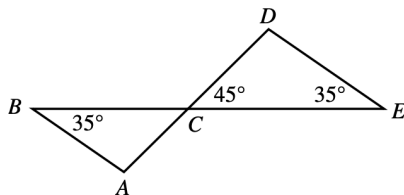
6. Jorge's current hourly wage for working at Denti Smiles is \$12.00. Jorge was told that at the beginning of next month, his new hourly wage will be an increase of 6% of his current hourly wage. What will be Jorge's new hourly wage?
- F. \$12.06
  - G. \$12.60
  - H. \$12.72
  - J. \$18.00
  - K. \$19.20

11. Students studying motion observed a cart rolling at a constant rate along a straight line. The table below gives the distance,  $d$  feet, the cart was from a reference point at 1-second intervals from  $t = 0$  seconds to  $t = 5$  seconds.

$t$	0	1	2	3	4	5
$d$	14	20	26	32	38	44

Which of the following equations represents this relationship between  $d$  and  $t$ ?

- A.  $d = t + 14$
  - B.  $d = 6t + 8$
  - C.  $d = 6t + 14$
  - D.  $d = 14t + 6$
  - E.  $d = 34t$
13. In the figure below,  $C$  is the intersection of  $\overline{AD}$  and  $\overline{BE}$ . If it can be determined, what is the measure of  $\angle BAC$ ?

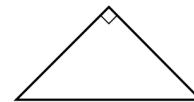


- A.  $80^\circ$
- B.  $100^\circ$
- C.  $110^\circ$
- D.  $115^\circ$
- E. Cannot be determined from the given information

21. To get a driver's license, an applicant must pass a written test and a driving test. Past records show that 80% of the applicants pass the written test and 60% of those who have passed the written test pass the driving test. Based on these figures, how many applicants in a random group of 1,000 applicants would you expect to get driver's licenses?
- A. 200
  - B. 480
  - C. 600
  - D. 750
  - E. 800

23. Which of the following expressions is equivalent to  $\frac{1}{2}y^2(6x + 2y + 12x - 2y)$ ?
- A.  $9xy^2$
  - B.  $18xy$
  - C.  $3xy^2 + 12x$
  - D.  $9xy^2 - 2y^3$
  - E.  $3xy^2 + 12x - y^3 - 2y$

27. What is the perimeter, in inches, of the isosceles right triangle shown below, whose hypotenuse is  $8\sqrt{2}$  inches long?
- A. 8
  - B.  $8 + 8\sqrt{2}$
  - C.  $8 + 16\sqrt{2}$
  - D. 16
  - E.  $16 + 8\sqrt{2}$



29. What is the product of the complex numbers  $(-3i + 4)$  and  $(3i + 4)$ ?
- A. 1
  - B. 7
  - C. 25
  - D.  $-7 + 24i$
  - E.  $7 + 24i$

32. What fraction lies exactly halfway between  $\frac{2}{3}$  and  $\frac{3}{4}$ ?
- F.  $\frac{3}{5}$
  - G.  $\frac{5}{6}$
  - H.  $\frac{7}{12}$
  - J.  $\frac{9}{16}$
  - K.  $\frac{17}{24}$