

QUIZ#05 MATH 022 SECTION 12

Name:

1. Two numbers x and y have a product of 21. Their sum, written as a function of y , is

- a) $s(x) = x + \frac{21}{x}$
- b) $s(x) = y(21 - y)$
- c) $s(x) = 1 + \frac{21}{y}$
- d) $s(x) = \frac{y^2 + 21}{y}$

2. A ball is tossed into the air from a height of 6 feet with an initial velocity of 20 feet per second. The maximum height attained by the ball is

- a) $\frac{61}{4}$ feet.
- b) $\frac{49}{4}$ feet.
- c) $\frac{5}{8}$ feet.
- d) $\frac{29}{4}$ feet.

3. A concert hall manager knows that at \$20 per ticket, 1000 ticket will be sold for an upcoming concert. For every \$3 increase in ticket price, 150 fewer tickets will be unsold. The maximum possible revenue for the convert hall is

- a) \$20
- b) \$2,000
- c) \$20,000
- d) \$200,000

4. A point $P(x, y)$ lies in the first quadrant on the parabola $y = 4 - x^2$. as indicated in the figure. The area of the triangular region written as a function of x is

- a) $A(x) = \frac{1}{2}x$
- b) $A(x) = 2x - \frac{1}{2}x^3$
- c) $A(x) = 4x - x^3$
- d) $A(x) = 2x - \frac{1}{2}x^2$

5. What point on the curve $y = \sqrt{2x + 2}$ is closest to the point $(2, 0)$?

- a) $(0, 0)$
- b) $(0, \sqrt{2})$
- c) $(1, 2)$
- d) $(2, \sqrt{6})$