Lessons 2.1–2.4

MULTIPLE CHOICE

1. **WEBSITES** From January through June, the number of visitors to a news website increased by about 1200 per month. In January, there were 50,000 visitors to the website. Which equation shows the number of visitors v as a function of the number of months t since January? *TEKS a.3*

   (A) $v = 50{,}000 - 1200t$

   (B) $v = 50{,}000 + 1200t$

   (C) $v = 1200 - 50{,}000t$

   (D) $v = 1200 + 50{,}000t$

2. **SLOPE** What is the slope of a line parallel to the line $\frac{1}{4}y - 3x = 5$? *TEKS a.5*

   (F) -3

   (G) $-\frac{3}{4}$

   (H) $\frac{1}{4}$

   (J) 12

3. **PARALLEL LINES** Which equation represents a line that is parallel to the line $x + 3y = 12$ and contains no points in Quadrant I? *TEKS a.5*

   (A) $y = -\frac{1}{3}x - 4$

   (B) $y = -\frac{1}{3}x + 8$

   (C) $y = -3x - 4$

   (D) $y = 3x + 4$

4. **POPULATION** The official population of Baton Rouge, Louisiana, was 219,478 in 1990 and 227,818 in 2000. What is the average rate of change in the population from 1990 to 2000? *TEKS a.5*

   (F) -8340 people per year

   (G) -834 people per year

   (H) 834 people per year

   (J) 8340 people per year

5. **FOOTBALL** The costs of general admission and student tickets to a high school football game are shown below. Ticket sales for one game totaled $11,200. Which equation gives the possible numbers of general admission tickets g and student tickets s that were sold? *TEKS a.3*

   (A) $11{,}200 = 4g - 7s$

   (B) $11{,}200 = 4g + 7s$

   (C) $11{,}200 = 7g - 4s$

   (D) $11{,}200 = 7g + 4s$

6. **PHOTOGRAPHY** Your digital camera has a 512 megabyte memory card. You take pictures at two resolutions, a low resolution requiring 4 megabytes of memory per image and a high resolution requiring 8 megabytes of memory per image. Which equation gives the possible numbers of high resolution photos x and low resolution photos y you can take? *TEKS a.3*

   (F) $8x + 4y = 512$

   (G) $4x + 8y = 512$

   (H) $8x - 4y = 512$

   (J) $4x - 8y = 512$

GRIDDED ANSWER ⓪①●③④⑤⑥⑦⑧⑨

7. **SLOPE** What is the slope of a line perpendicular to the line shown? Round your answer to the nearest hundredth. *TEKS a.5*