Lessons 4.4–4.7

MULTIPLE CHOICE

1. **DRINK MIX** The amount d (in tablespoons) of drink mix needed to make a drink varies directly with the amount w (in fluid ounces) of water used. A package of the mix recommends using 3 tablespoons of drink mix and 12 fluid ounces of water. Which of the following equations can be used to relate w and d? *TEKS A.1.C*

   (A) $w = 4d$ (B) $w = \frac{1}{4}d$

   (C) $d = 4w$ (D) $d = 36w$

2. **NOVEL** You have to read 15 pages of a novel for homework. The number of pages, $p(x)$, that you have left to read after reading for x minutes is given by $p(x) = -x + 15$. What is $p(7)$? *TEKS A.1.C*

   (F) 7   (G) 8

   (H) 15   (J) 22

3. **CELL PHONE** Your family bought a cell phone for $50 and pays $30 per month for service. If x is the number of months you use the phone, your total cost C is given by the equation $C = 30x + 50$. The cost of a friend's cell phone service is given by the equation $C = 30x + 30$. How does your friend's plan differ from yours? *TEKS A.6.B*

   (A) The monthly charge is $20 less.

   (B) The cost of the phone is $20 less.

   (C) The cost of the phone is $30 more.

   (D) It has an additional $30 activation fee.

4. **FREE THROWS** On average, a basketball player makes 16 free throws for every 20 attempts. Suppose you write a direct variation model that relates the number of free throws made, m, to the number of free throws attempted, a. What is the constant of variation? *TEKS A.4.A*

   (F) 0.8   (G) 1.25

   (H) 16   (J) 20

5. **SUNSPOTS** A central observatory averages and then reports the number of sunspots recorded by various observatories. The table shows the average number of sunspots reported by the central observatory every two years from 1995 to 2001. Which of the following time periods has the greatest rate of change in the average number of sunspots with respect to time? *TEKS A.6.A*

Year	Average number of sunspots
1995	17.5
1997	21.0
1999	93.2
2001	110.9

   (A) 1995 to 1997   (B) 1995 to 1999

   (C) 1997 to 1999   (D) 1999 to 2001

GRIDDED ANSWER ⓪①●③④⑤⑥⑦⑧⑨

6. **GYM FEES** To become a member at a gym, you have to pay a sign-up fee of $75 and a monthly fee of $40. To increase its profit, the gym increases the sign-up fee to $125. The function f gives the total cost with the regular sign-up fee. The function g gives the total cost with the increased sign-up fee. The graphs of f and g are shown. The graph of g is a vertical translation of the graph of f by how many units? *TEKS a.3*