

- What is the largest integer value of  $p$  that satisfies the inequality  $4 + 3p < p + 1$ ?
  - 2
  - 1
  - 0
  - 1
- If  $-3 < 2x + 5 < 9$ , which of the following CANNOT be a possible value of  $x$ ?
  - 2
  - 1
  - 0
  - 2
- Roger is having a picnic for 78 guests. He plans to serve each guest at least one hot dog. If each package,  $p$ , contains eight hot dogs, which inequality could be used to determine the number of packages of hot dogs Roger must buy?
  - $\frac{p}{8} \geq 78$
  - $8p \geq 78$
  - $8 + p \geq 78$
  - $78 - p \geq 8$
- Peter begins his kindergarten year able to spell 10 words. He is going to learn to spell 2 new words every day. Which inequality can be used to determine how many days,  $d$ , it takes Peter to be able to spell at least 85 words?
  - $2d + 10 \geq 85$
  - $20d \leq 85$
  - $(d + 2) + 10 \geq 85$
  - $2d - 10 \leq 85$
- Which of the following numbers is NOT a solution of the inequality  $7 - 5x \leq -3(x - 5)$ ?
  - 5
  - 4
  - 2
  - 1
- Tamara has a cell phone plan that charges \$0.07 per minute plus a monthly fee of \$19.00. She budgets \$29.50 per month for total cell phone expenses without taxes. What is the maximum number of minutes Tamara could use her phone each month in order to stay within her budget?
  - 150
  - 271
  - 421
  - 692

7. What is the solution of  $3(2m - 1) \leq 4m + 7$ ?
- (A)  $m \geq 5$   
(B)  $m \leq 5$   
(C)  $m \geq 4$   
(D)  $m \leq 4$
8. An online music club has a one-time registration fee of \$13.95 and charges \$0.49 to buy each song. If Emma has \$50.00 to join the club and buy songs, what is the maximum number of songs she can buy?
- (A) 73  
(B) 74  
(C) 130  
(D) 131
9. The ninth grade class at a local high school needs to purchase a park permit for \$250.00 for their upcoming class picnic. Each ninth grader attending the picnic pays \$0.75. Each guest pays \$1.25. If 200 ninth graders attend the picnic, which inequality can be used to determine the number of guests,  $x$ , needed to cover the cost of the permit?
- (A)  $0.75x - (1.25)(200) \geq 250.00$   
(B)  $0.75x + (1.25)(200) \geq 250.00$   
(C)  $(0.75)(200) - 1.25x \geq 250.00$   
(D)  $(0.75)(200) + 1.25x \geq 250.00$
10. If  $2(x - 4) \geq \frac{1}{2}(5 - 3x)$  and  $x$  is an integer, what is the smallest possible value of  $x^2$ ?
- (A)  $\frac{1}{4}$   
(B) 1  
(C) 4  
(D) 9
11. Edith tutors after school for which she gets paid at a rate of \$20 an hour. She has also accepted a job as a library assistant that pays \$15 an hour. She will work both jobs, but she is able to work *no more than* a total of 11 hours a week, due to school commitments. Edith wants to earn *at least* \$185 a week working a combination of both jobs. Which inequality can be used to represent the situation?
- (A)  $20(11 + x) + \frac{185}{x} > 15$   
(B)  $20x + 15(11 - x) > 185$   
(C)  $15(11 - x) + \frac{185}{x} > 20$   
(D)  $15x + 20(11 + x) > 185$
12. Guy is paid \$185 per week plus 3% of his total sales in dollars, and Jim is paid \$275 per week plus 2.5% of his total sales in dollars. If  $d$  represents the dollar amount of sales for each person, which inequality represents the amount of sales for which Guy is paid more than Jim?
- (A)  $d > 18,000$   
(B)  $d < 18,000$   
(C)  $d > 12,500$   
(D)  $d < 12,500$

13. Connor wants to attend the town carnival. The price of admission to the carnival is \$4.50, and each ride costs an additional 79 cents. If he can spend at most \$16.00 at the carnival, which inequality can be used to solve for  $r$ , the number of rides Connor can go on, and what is the maximum number of rides he can go on?
- (A)  $0.79 + 4.50r \leq 16.00$ ; 3 rides  
(B)  $0.79 + 4.50r \leq 16.00$ ; 4 rides  
(C)  $4.50 + 0.79r \leq 16.00$ ; 14 rides  
(D)  $4.50 + 0.79r \leq 16.00$ ; 15 rides
14. For how many integer values of  $b$  is  $b + 3 > 0$  and  $1 > 2b - 9$ ?
- (A) Four  
(B) Five  
(C) Six  
(D) Seven

### Grid-In

1. For what integer value of  $y$  is  $y + 5 > 8$  and  $2y - 3 < 7$ ?
2. If 2 times an integer  $x$  is increased by 5, the result is always greater than 16 and less than 29. What is the least value of  $x$ ?
3. If  $2 < 20x - 13 < 3$ , what is one possible value for  $x$ ?

$$\frac{1}{7} + \frac{1}{8} - \frac{1}{9} + \frac{1}{10} < \frac{1}{8} - \frac{1}{9} + \frac{1}{10} + \frac{1}{n}$$

4. For the above inequality, what is the greatest possible positive integer value of  $n$ ?
5. Chelsea has \$45 to spend at an amusement park. She spends \$20 on admission and \$15 on snacks. She wants to play a game that costs \$0.65 per game. What is the maximum number of times she can play the game?
6. Chris rents a booth at a flea market at a cost of \$75 for one day. At the flea market Chris sells picture frames each of which costs him \$6.00. If Chris sells each picture frame for \$13, how many picture frames must he sell to make a profit of *at least* \$200 for that day?
7. An online electronics store must sell at least \$2,500 worth of printers and monitors per day. Each printer costs \$125 and each monitor costs \$225. The store can ship a maximum of 15 items per day. What is the maximum number of printers it can ship each day?

$$-\frac{5}{3} < \frac{1}{2} - \frac{1}{3}x < -\frac{3}{2}$$

8. For the inequality above, what is a possible value of  $x - 3$ ?