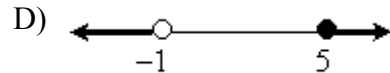
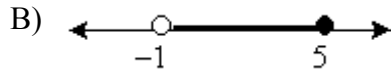
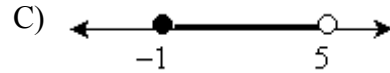
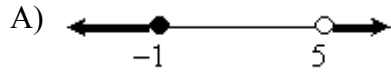


Name: _____ Date: _____

1. A community college has 3,000 students and 90 instructors. The college plans that enrollment will be 3,500 next year. How many new instructors should be hired if the college wants to keep the same student to instructor ratio?
A) 13 instructors B) 15 instructors C) 105 instructors D) 77 instructors
2. $2 - x > 17$
A) $x < -15$ B) $x > 19$ C) $x < 19$ D) $x > -15$
3. At a certain restaurant, one out of every 7 customers orders a hamburger. If the restaurant has 210 customers in one day, how many hamburgers will they sell?
A) 32 hamburgers B) 31 hamburgers C) 29 hamburgers D) 30 hamburgers
4. Simplify: $5(-3x + 3)$
A) 0 B) $-15x + 15$ C) $15x + 15$ D) $-15x + 3$
5. Solve by using the quadratic formula. $3x^2 - 5x - 11 = 0$
A) $\frac{5 \pm \sqrt{157}}{6}$ B) $\frac{5 \pm \sqrt{58}}{6}$ C) $\frac{5 \pm \sqrt{157}}{3}$ D) $\frac{5 \pm \sqrt{58}}{3}$
6. Evaluate the formula $P = 2l + 2w$ when $l = 4$ in. and $w = 4$ in.
A) 12 B) 12 C) 16 D) 8
7. A person drives 5,000 miles in 6 months. How many miles will that person drive in 3 years?
A) 30,000 miles B) 90,000 miles C) 2,500 miles D) 10,000 miles

8. Solve the proportion. $\frac{x}{5} = \frac{16}{10}$
- A) 32 B) 8 C) $\frac{8}{25}$ D) $\frac{25}{8}$
9. Joe has \$10,000 to purchase a used car. If the sales tax is 7% and the fee for title and license plates is \$200, what is the maximum amount Joe can spend for a car?
- A) \$9,158.87 B) \$5,764.70 C) \$9,345.79 D) \$9,532.71
10. Solve by using the quadratic formula. $3x^2 - 11x - 4$
- A) $\left\{\frac{1}{4}, -4\right\}$ B) $\left\{-\frac{1}{4}, 3\right\}$ C) $\left\{-\frac{1}{3}, 4\right\}$ D) $\left\{\frac{1}{3}, -4\right\}$
11. Solve the equation. $2x - 4 = -10$
- A) $\{-7\}$ B) $\{-1\}$ C) $\{-9\}$ D) $\{-3\}$
12. Dorothy is 6 years older than Ricardo. The product of their present ages is twice what the product of their ages was 6 years ago. How old is Dorothy?
- A) 18 B) 12 C) 24 D) 30
13. An arithmetic student needs at least a 70% average to receive credit for the course. If she scored 86%, 77%, and 64% on the first three exams, what is the lowest score she can get on the fourth exam to receive credit for the course?
- A) 58% B) 51% C) 53% D) 55%
14. Solve the inequality: $x + 14 < -11$
- A) $x > 3$ B) $x > -25$ C) $x < -25$ D) $x < 3$

15. Show the solutions using a graph: $-1 < x \leq 5$



16. Use the FOIL method to multiply. $(x + 5)(x - 7)$

17. Solve the inequality: $-3x + 5 \geq 8$.

18. Write in symbols: A number increased by by 3.

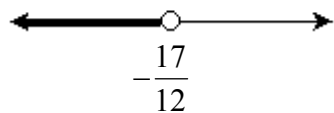
19. Solve and graph the solution set: $4(3x + 4) < -1$

20. Solve the proportion. $\frac{x + 5}{50} = \frac{2}{5}$

21. Evaluate $7x + y - 7$ when $x = -4$ and $y = -1$.
22. Three times a number is 10 less than five times the number. Find the number.
23. A couple has \$20,000 to use toward the purchase their first home. If they put down a 20% downpayment and pay \$5000 in closing costs, what is the maximum home price they can afford?
24. Write in symbols: 9 less than a number.
25. Write the ratio as a fraction and reduce to lowest terms. 40 cents to 8 cents

Answer Key

1. B
2. A
3. D
4. B
5. A
6. C
7. A
8. B
9. A
10. C
11. D
12. C
13. C
14. C
15. B
16. $x^2 - 2x - 35$
17. $x \leq -1$
18. $x + 3$
- 19.



20. 15
21. -36
22. 5
23. \$75,000
24. $x - 9$
25. $\frac{5}{1}$