

ALGEBRA REGENTS - FIRST QUARTER REVIEW SHEET

Name: _____

Date: _____

- What is the sum of $(2a + 3b - 5)$ and $(5a - 3b - 1)$?
- If $2x^2 - 4x + 6$ is subtracted from $5x^2 + 8x - 2$, the difference is
 - $3x^2 + 12x - 8$
 - $-3x^2 - 12x + 8$
 - $3x^2 + 4x + 4$
 - $-3x^2 + 4x + 4$
- Sharu has \$2.35 in nickels and dimes. If he has a total of thirty-two coins, how many of *each* coin does he have?
- The cost of 3 markers and 2 pencils is \$1.80. The cost of 4 markers and 6 pencils is \$2.90. What is the cost of each item? Include appropriate units in your answer.
- The inequality $3x + 2 > x + 8$ is equivalent to
 - $x > -\frac{3}{2}$
 - $x > \frac{3}{2}$
 - $x > 3$
 - $x < 3$
- Which is the greatest integer that makes the inequality $3 - 2x > 9$ a true statement?
 - 2
 - 2
 - 5
 - 4
- Maria is twice as old as Sue. If x represents Sue's age, which expression represents how old Maria will be in three years?
 - $2x$
 - $x + 3$
 - $\frac{1}{2}x - 3$
 - $2x + 3$

8. Tim ate four more cookies than Alice. Bob ate twice as many cookies as Tim. If x represents the number of cookies Alice ate, which expression represents the number of cookies Bob ate?

A. $2 + (x + 4)$ B. $2x + 4$
C. $2(x + 4)$ D. $4(x + 2)$

9. If x represents the smallest of three consecutive even integers, then the largest would be represented by

A. $x + 2$ B. $x + 3$
C. $x + 4$ D. $x + 6$

10. If $n + 7$ represents an even number, the next larger even number is represented by

A. $n + 8$ B. $n + 9$
C. $10n + 7$ D. $2n + 7$

11. Which expression is equivalent to the expression $(2x + 4)(x - 6)$?

A. $2x^2 - 24$ B. $2x^2 - 8x - 24$
C. $x^2 - 4x - 12$ D. $2x^2 + 4x - 24$

12. The expression $(x - 6)^2$ is equivalent to

A. $x^2 - 36$ B. $x^2 + 36$
C. $x^2 - 12x + 36$ D. $x^2 + 12x + 36$

13. A part of Jennifer's work to solve the equation $2(6x^2 - 3) = 11x^2 - x$ is shown below.

$$\text{Given: } 2(6x^2 - 3) = 11x^2 - x$$

$$\text{Step 1: } 12x^2 - 6 = 11x^2 - x$$

Which property justifies her first step?

- A. identity property of multiplication
B. multiplication property of equality
C. commutative property of multiplication
D. distributive property of multiplication over subtraction

14. Solve for p in terms of r , s , and t :
 $rp + s = t$

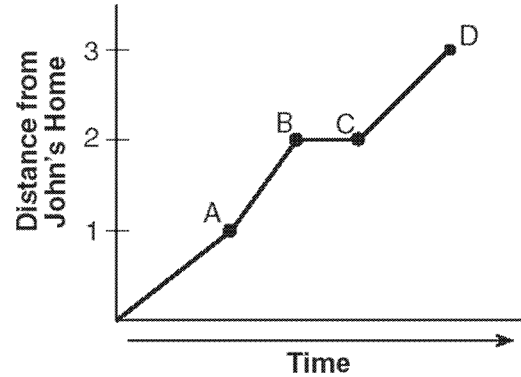
15. If $dx - 2 = h$, then x is equal to

- A. $h + \frac{2}{d}$ B. $\frac{h-2}{d}$
C. $\frac{h+2}{d}$ D. $\frac{h}{d} + 2$

16. Solve for x : $15x - 3(3x + 4) = 6$

- A. 1 B. $-\frac{1}{2}$ C. 3 D. $\frac{1}{3}$

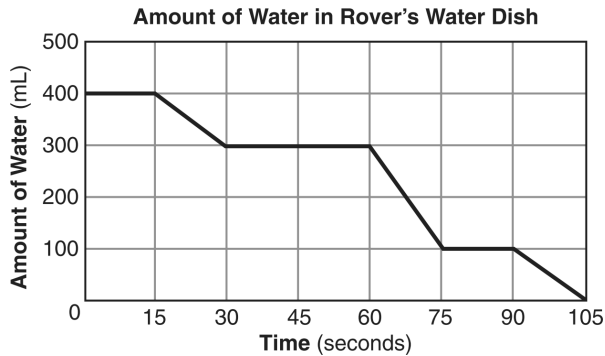
17. John left his home and walked 3 blocks to his school, as shown in the accompanying graph.



What is one possible interpretation of the section of the graph from point B to point C ?

- A. John arrived at school and stayed throughout the day.
B. John waited before crossing a busy street.
C. John returned home to get his mathematics homework.
D. John reached the top of a hill and began walking on level ground.

18. The accompanying graph shows the amount of water left in Rover's water dish over a period of time.



How long did Rover wait from the end of his first drink to the start of his second drink of water?

- A. 10 sec B. 30 sec
C. 60 sec D. 75 sec

19. Which is an irrational number?

- A. 5.7 B. $\sqrt{3}$
C. $\frac{8}{11}$ D. $\sqrt{400}$

20. Which number below is irrational?

$$\sqrt{\frac{4}{9}}, \sqrt{20}, \sqrt{121}$$

Why is the number you chose an irrational number?

21. The fraction $\frac{-12x^3y^5}{3xy^3}$, $x \neq 0$, $y \neq 0$, is equivalent to

- A. $-4x^4y^7$ B. $\frac{-4x^2}{y^3}$
C. $4x^2y^3$ D. $-4x^2y^2$

22. The product $\left(\frac{2a^3}{5b}\right)\left(\frac{3a^2}{7b}\right)$ is

- A. $\frac{5a^5}{12b^2}$ B. $\frac{5a^6}{12b}$
C. $\frac{6a^5}{35b^2}$ D. $\frac{6a^6}{35b}$

23. The expression $-6x - 7(4 + 3x)$ is equivalent to

- A. $3x - 28$ B. $-9x - 28$
C. $-21x - 4$ D. $-27x - 28$

24. Simplify: $\frac{27k^5m^8}{(4k^3)(9m^2)}$

25. What is the value of x in the equation $4(2x + 1) = 27 + 3(2x - 5)$?

- A. 21 B. 9 C. $7\frac{1}{2}$ D. 4

26. Solve for x : $2x + 4 \leq 12$

27. Which statement is equivalent to the inequality $9 - 4x \leq 3x - 5$?

- A. $x > -2$ B. $x < 2$
C. $x \leq -2$ D. $x \geq 2$

28. The statement "The sum of twice a number and 18 is greater than 25" can be expressed as

- A. $2n + 18 = 25$ B. $2(n + 18) > 25$
C. $2(n + 18) > 50$ D. $2n + 18 > 25$

29. The length of a rectangle is 15 and its width is w . The perimeter of the rectangle is, *at most*, 50. Which inequality can be used to find the longest possible width?

- A. $30 + 2w < 50$ B. $30 + 2w \leq 50$
C. $30 + 2w > 50$ D. $30 + 2w \geq 50$

30. One integer is 4 more than three times another integer. The sum of the two integers is less than 21. Find the *largest* possible values for both integers. [*Only an algebraic solution will be accepted.*]

31. Find three consecutive even integers such that the sum of the smallest integer and twice the second is 12 more than the third. [*Only an algebraic solution will be accepted.*]

32. The ages of three brothers are consecutive even integers. Three times the age of the youngest brother exceeds the oldest brother's age by 48 years. What is the age of the *youngest* brother?

- A. 14 B. 18 C. 22 D. 26

Problem-Attic format version 4.4.310
 © 2011–2017 EducAide Software
 Licensed for use by tmiller1@nyackschools.org
 Terms of Use at www.problem-attic.com

ALGEBRA REGENTS - FIRST QUARTER REVIEW SHEET 10/31/2017

<p>1. Answer: $7a - 6$</p> <p>2. Answer: A</p> <p>3. Answer: 17 nickels and 15 dimes</p> <p>4. Answer: a marker = \$.50 and a pencil \$.15</p> <p>5. Answer: C</p> <p>6. Answer: D</p> <p>7. Answer: D</p> <p>8. Answer: C</p> <p>9. Answer: C</p> <p>10. Answer: B</p> <p>11. Answer: B</p> <p>12. Answer: C</p> <p>13. Answer: D</p> <p>14. Answer: $\frac{t - s}{r}$</p> <p>15. Answer: C</p> <p>16. Answer: C</p> <p>17. Answer: B</p> <p>18. Answer: B</p> <p>19. Answer: B</p>	<p>20. Answer: $\sqrt{20}$</p> <p>21. Answer: D</p> <p>22. Answer: C</p> <p>23. Answer: D</p> <p>24. Answer: $\frac{3k^2m^6}{4}$</p> <p>25. Answer: D</p> <p>26. Answer: $x \leq 4$</p> <p>27. Answer: D</p> <p>28. Answer: D</p> <p>29. Answer: B</p> <p>30. Answer: 4, 16</p> <p>31. Answer: 6, 8, 10</p> <p>32. Answer: D</p>
--	---