Test 1-62 Algebra I Part II Name_____

1. Evaluate. Do not use a calculator. $\sqrt{36} - \sqrt{64} + \sqrt{121} + \sqrt{225}$

[1] _____

2. Evaluate: $6^2 - 5^2 \pm \sqrt{16}$

[2] _____

3. Given the sets $A = \{7, 8, 9\}$, $B = \{6, 7, 8, 9, \ldots\}$, and $C = \{6, 7, 8\}$, tell which of the following statements are true and which are false.

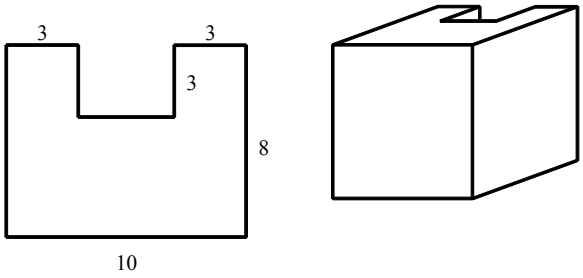
a) $A \subset B$ b) $11 \in A$ c) $A \not\subset C$ d) $A \subset C$

[3] _____

4. (a) $\sqrt{5} - \sqrt{25} \in$ {What subsets of the real numbers}? (b) $3\sqrt[4]{81} + 2\sqrt{64} \in$ {What subsets of the real numbers}?

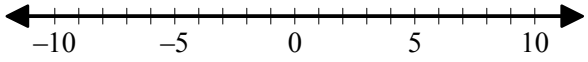
[4] _____

5. A base of a right prism whose height is 11 inches is shown. Find the volume of the prism. All angles are right angles. Dimensions are in inches.



[5] _____

6. Graph: $4 \le x < 6$



[6] _____

7. Solve the system by substitution:
$-4x + y = -34$

$-3x + 5y = -51$

[7] _____

8. Solve the system by substitution:
$-7x + y = -31$

$6x + 2y = 18$

[8] _____

9. A ski club planned a trip to Park City, and 76 of the members signed up. If 60% of the members did not sign up, how many members does the club have?

[9] _____

10. During the sale, the price of the bicycle was marked down 19 percent. The sale price of the bicycle was $189. What was the original price of the bicycle?

[10] _____

11. Solve the system by the substitution method.
$x = 3y + 8$

$2x + y = 23$

[11] _____

12. The cost of building a house increases 22 percent every year. If it costs $129,000 to build a house this year, what would it cost to build a house next year?

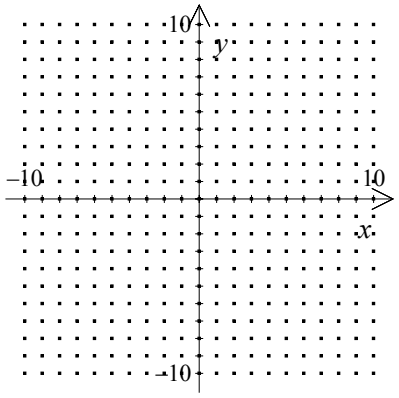
[12] _____

13. Add. Write the answer with all exponents positive. $x^{-3}y + 7z^{-3}$

[13] _____

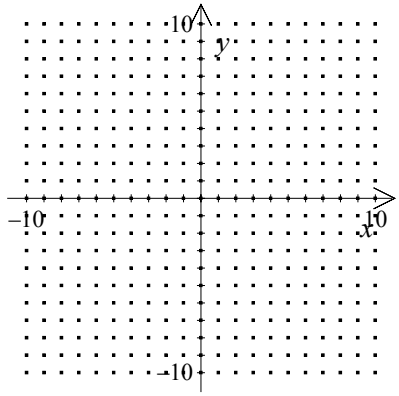
Graph:

14. $3x - y = 9$



[14] _____

15. $x = 4$



[15] _____

16. Simplify: $\dfrac{\dfrac{1}{a+b}}{\dfrac{1}{c}}$

[16] _____

17. Simplify. Write the answer with all positive exponents. $\dfrac{x^5y^5z^0\left(x^5y^0\right)^{-4}xy^{-1}\left(z^{-2}\right)^3}{x^3\left(y^{-3}\right)^0x^2y^3x^{-3}\left(z^{-1}\right)^{-2}}$

[17] _____

18. Add. Write the answer with all exponents positive. $x^3y^{-2}z^{-1} + w^{-2}y^{-1}z^{-2}$

[18] _____

19. Percius peeked around the bush and spied 300 elves gathered in the glen. If this was 20 percent more than Petros spied under the tree, how many elves did Petros spy?

[19] _____

20. Use nine unit multipliers to convert 40 cubic feet to cubic meters.

[20] _____

21. Multiply: $(x+1)(x^2+3x+1)$

[21] _____

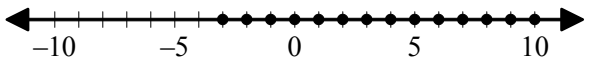
22. Evaluate: $\dfrac{1}{x^{-3}} + \left|-x^2\right|\left(-x^2\right) - \sqrt[3]{y}$ if $x = \sqrt[3]{27}$ and $y - 3 = -30$

[22] _____

23. The ratio of rascals to good guys was 17 to 18. If there were 450 good guys, how many rascals were there?

[23] _____

24. Write an inequality whose solution is the graph shown below. Remember to designate the domain.



[24] _____