Alg 2/2+ Ch 1 Test **Practice Test**

No calculators

Show work for full credit. Circle, box, or highlight your answers.

Questions are worth 5 points each; the total will be converted to an equivalent score out of 100.

Evaluate each expression for x = 2

1. $x - 5x + 3x - 6x + 2x$

$(2) - 5(2) + 3(2) - 6(2) + 2(2)$

OR

$-5x \rightarrow -5(2) = -10$

2. $4(x^2 - 3) + 7(x - 1)$

$4((2)^2 - 3) + 7((2) - 1)$

$4(1) + 7(1) = 11$

Simplify each expression

3. $2x + 9y - 7x + 2y$

$2x - 7x + 9y + 2y$

$-5x + 11y$

4. $3[2(x - 4) + 1] + 2(x - 7)$

$3[2x - 8 + 1] + 2x - 14$

$6x - 21 + 2x - 14$

$8x - 35$

Solve each equation

5. $9y - 5 = 3y + 7$

$-3y + 5 \quad -3y + 5$

$6y = 12$

$y = 2$

6. $3(4x - 2) - 5 = -47$

$3(4x - 2) = -42$

$4x - 2 = -14$

$4x = -12 \Rightarrow x = -3$

7. The lateral surface area of a cylinder is given by the formula $S = 2\pi rh$. Solve for h.

$\frac{S}{2\pi r} = \frac{2\pi r h}{2\pi r}$

$h = \frac{S}{2\pi r}$

-more-

Solve each equation/inequality

8. $2x + 21 \geq 7$

$2x \geq -14$

$x \geq -7$

9. $23 - 2x < 9$ $\quad -2x < -14$

$x > 7$

10. $|x - 7| = 11$

$x - 7 = 11 \quad x - 7 = -11$

$x = 18 \quad x = -4$

$x = \{18, -4\}$

11. $|x - 1| - 3 > -5$

$|x - 1| > -2$

$x - 1 > -2 \quad x - 1 < 2$

$x > -1 \quad x < 3$

CHECK!

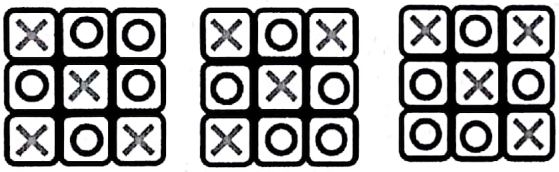
neither work,

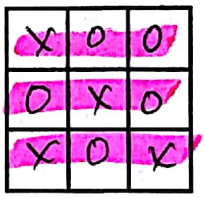
no solution

12. An oven thermometer shows that when the oven is set to 375°F the actual temperature can be higher or lower by as much as 5°F! Write an absolute-value inequality describing the temperature range using t to represent the temperature.

$|t - 375| \leq 5$

13. Based on the pattern below, sketch the 5th image in the sequence...here:





14. Name each number set in the nested boxes below. Use *"integers," "whole numbers," "irrational numbers," "natural numbers,"* and *"rational numbers."*

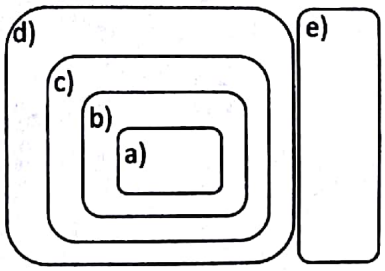
a) natural numbers

b) whole numbers

c) integers

d) rational numbers

e) irrational numbers



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