Algebra 1 SOL Review Session

Day: 1   **Topics**: Desmos Overview, Writing and Evaluating Algebraic Expressions (A.1)

Key Concepts:
- Navigating through Desmos
- Key Vocabulary Words for Translating "Verbal Quantitative Expressions"

Guided Practice:
Activity 1: Navigating Through Desmos (Handout)
Glossary (Handout)

Independent Practice:

Evaluate $5\sqrt[3]{a} - c\sqrt{b} + 9$ for $a = 8; b = 16, c = -4$	Write the algebraic expression: Three less than the square of a number.
Evaluate $\|3m + 2\| - 4$ for $m = -6$	Write the algebraic expression: Twice the sum of a number and 5 is no more than 12
Simplify the expression: $\dfrac{4^3 - 14}{-8 + 3}$	Write the algebraic expression: Nine less than the product of 5 and a number is 32.
Evaluate $\dfrac{b^3 - 21}{5b + 9}$ when $b = -3$	The entrance fee to the county fair is \$8 and tickets, which are used to ride the rides and play carnival games, cost \$0.50 each. You have \$20 to spend on the entrance fee and tickets. Write an expression that represents this information. (You do not need to solve it)
Find the range for $f(x) = x^2 - 4x + 3$ given the domain of $\{-4, -1, 0, 5\}$	Frank works at a convenience store. He earns: • \$7.50 an hour when he works during the day • \$12.50 an hour when he works at night He wants to earn at least \$300. Write an inequality that represents this information.

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More Independent Practice (Multiple Choice)

Which of the following is equivalent to $b^2 - c\sqrt{a} + \sqrt[3]{c}$ when $a = 16, b = -3, c = -8$?	Which expression is equivalent to "Twice the sum of a number and 5 is 22."
A. -25 B. 43	A. $2(x+5) = 22$ B. $2x + 5 = 22$
C. 39 D. -21	C. $2(x+5) > 22$ D. $2x + 5 + 22 = n$
Which of the following values is in the range of the function $f(x) = 2x^2 - 8$ for the domain? $\{-3, -1, 2, 4\}$.	Which expression is equivalent to "10 less than the quotient of a number and 8 is no more than 15."?
A. 8 B. -6	A. $\dfrac{n}{8} - 10 \geq 15$ B. $10 - \dfrac{n}{8} \leq 15$
C. 10 D. -8	C. $\dfrac{n}{8} - 10 \leq 15$ D. $10 - \dfrac{n}{8} \geq 15$
What is the value of the expression $\lvert 3x - 4 \rvert + 2y$ when $x = -2, y = 6$?	Which expression is equivalent to "Four greater than one-half the square of a number is 22."?
A. -2 B. 22	A. $4 > \dfrac{1}{2}x^2 = 22$ B. $\dfrac{1}{2}\sqrt{x} + 4 = 22$
C. -22 D. 16	C. $\dfrac{1}{2}x^2 + 4x = 22$ D. $\dfrac{1}{2}x^2 + 4 = 22$
What is the value of the expression $\dfrac{b^3 - 22}{5b - 5}$ when $b = -2$?	Your cousin works at a technology store. She earns commission on his sales. She earns: • $12 for each widget she sells • $15 for each thingamajig she sells She wants to earn at least $500 in commissions this month. Write an inequality that represents this information.
A. 2 B. -2 C. $\dfrac{14}{15}$ D. -6	A. $12x + 15y \leq 500$ B. $12x - 15y \geq 500$ C. $12x + 15y \geq 500$ D. $\dfrac{1}{12}x + \dfrac{1}{15}y \geq 500$
Which is equivalent to the expression: $\dfrac{-2^4 + 14}{-8 + 6}$	Your family wants to go to the movies. If the adult tickets cost $15 and a child ticket costs $10. Write an expression that shows what it would cost to pay for x adults and y children.
A. -15 B. -1	A. $10x + 15y$ B. $15x + 10y$
C. 15 D. 1	C. $x + y = 25$ D. $10x = 15y$