

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:

<p>Evaluate $5\sqrt{a} - c\sqrt{b} + 9$ for $a = 8; b = 16, c = -4$</p> <p style="text-align: center; color: red;">35</p>	<p>Write the algebraic expression: Three less than the square of a number.</p> <p style="text-align: center; color: red;">$x^2 - 3$</p>
<p>Evaluate $3m + 2 - 4$ for $m = -6$</p> <p style="text-align: center; color: red;">12</p>	<p>Write the algebraic expression: Twice the sum of a number and 5 is no more than 12</p> <p style="text-align: center; color: red;">$2(n + 5) \leq 12$</p>
<p>Simplify the expression: $\frac{4^3 - 14}{-8 + 3}$</p> <p style="text-align: center; color: red;">$\frac{64 - 14}{-5} = -10$</p>	<p>Write the algebraic expression: Nine less than the product of 5 and a number is 32.</p> <p style="text-align: center; color: red;">$5x - 9 = 32$</p>
<p>Evaluate $\frac{b^3 - 21}{5b + 9}$ when $b = -3$</p> <p style="text-align: center; color: red;">$\frac{-27 - 21}{-15 + 9} = \frac{-48}{-6} = 8$</p>	<p>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)</p> <p style="text-align: center; color: red;">$8 + .5n \leq 20$</p>
<p>Find the range for $f(x) = x^2 - 4x + 3$ given the domain of $\{-4, -1, 0, 5\}$</p> <p style="text-align: center; color: red;">$\{35, 8, 3\}$</p>	<p>Frank works at a convenience store. He earns:</p> <ul style="list-style-type: none"> • \$7.50 an hour when he works during the day • \$12.50 an hour when he works at night <p>He wants to earn at least \$300. Write an inequality that represents this information.</p> <p style="text-align: center; color: red;">$7.50d + 12.50n \geq 300$</p>

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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 $a=16, b=-3, c=-8$?

- A. -25
B. 43
C. 39
D. -21

Which of the following values is in the range of the function $f(x) = 2x^2 - 8$ for the domain $\{-3, -1, 2, 4\}$.

- A. 8
B. -6
C. 10
D. -8

What is the value of the expression $|3x - 4| + 2y$ when $x = -2, y = 6$?

- A. -2
B. 22
C. -22
D. 16

What is the value of the expression $\frac{b^3 - 22}{5b - 5}$ when $b = -2$?

- A. 2
B. -2
C. $\frac{14}{15}$
D. -6

Which is equivalent to the expression: $\frac{-2^4 + 14}{-8 + 6} = \frac{-2}{-2}$

- A. -15
B. -1
C. 15
D. 1

Which expression is equivalent to "Twice the sum of a number and 5 is 22."

- A. $2(x + 5) = 22$
B. $2x + 5 = 22$
C. $2(x + 5) > 22$
D. $2x + 5 + 22 = n$

Which expression is equivalent to "10 less than the quotient of a number and 8 is no more than 15."?

- A. $\frac{n}{8} - 10 \geq 15$
B. $10 - \frac{n}{8} \leq 15$
C. $\frac{n}{8} - 10 \leq 15$
D. $10 - \frac{n}{8} \geq 15$

Which expression is equivalent to "Four greater than one-half the square of a number is 22."?

- A. $4 > \frac{1}{2}x^2 = 22$
B. $\frac{1}{2}\sqrt{x} + 4 = 22$
C. $\frac{1}{2}x^2 + 4x = 22$
D. $\frac{1}{2}x^2 + 4 = 22$

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. $12x + 15y \leq 500$
B. $12x - 15y \geq 500$
C. $12x + 15y \geq 500$
D. $\frac{1}{12}x + \frac{1}{15}y \geq 500$

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. $10x + 15y$
B. $15x + 10y$
C. $x + y = 25$
D. $10x = 15y$