

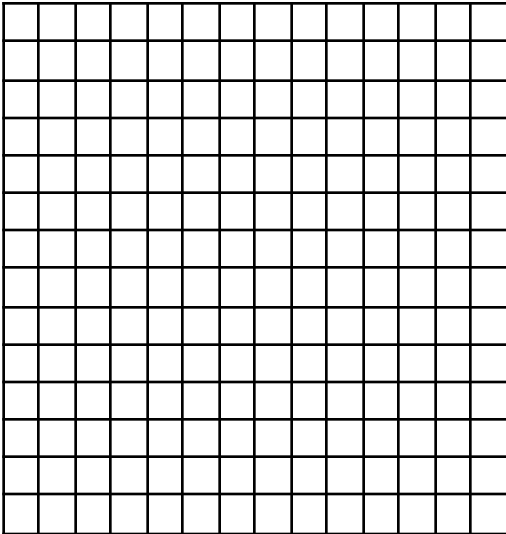
Unit 6: Test Study Guide

<p>1. Which expressions is equal to 2^4 ? Select all that apply.</p> <p>A. 8 B. $2 \cdot 4$ C. 4^2 D. 32 E. 16</p>	<p>2. Select all equations where $x=5$ is a solution.</p> <p>A. $X - 3 = 2$ B. $1 + x = 6$ C. $9 - x = 3$ D. $7 = 2x$ E. $\frac{1}{5}x = 1$ F. $X^2 = 10$</p>
<p>3. Which expression is equivalent to $18c - 6d$?</p> <p>A. $3(6c + 2d)$ B. $2(9c - 6d)$ C. $2(9c - 3d)$ D. $c(18 - 6d)$</p>	<p>4. Here is an expression: $4 \cdot 3^x$</p> <p>A. Evaluate the expression when $x = 2$</p> <p>B. Evaluate the expression when $x = 4$</p>
<p>5. $\frac{2}{3}$ of the students in the cafeteria are 6th graders.</p> <p>A. How many 6th graders are there if the cafeteria has 180 kids? How many kids are not 6th graders?</p> <p>B. What if there were only 60 kids in the cafeteria, how many 6th graders would there be?</p> <p>C. If the cafeteria had x students, write an expression for the number of 6th graders in terms of x.</p>	<p>6. Mai poured 6.8 liters of water into 4 jugs equally.</p> <p>A. Draw a diagram to represent this.</p> <p>B. Write two equations to represent this scenario.</p> <p>C. Solve the equations you made.</p>

D. How many students in the cafeteria if there are 42 sixth graders?

D. What does the solution from C mean in the context of the problem?

7. Jada makes fruity juice by mixing 3 cups mango juice with every 4 cups of apple juice.



A. How much mango juice will she need if she uses 12 cups of apple juice?

B. How much apple juice will she need if she uses 6 cups mango juice?

C. Plot these points from A and B as points of measurements on the graph.

D. Let m represent the number of cups of mango juice and a represent the number of cups of apple juice. Write two different equations that shows how m and a are related.

8. During a donut-a-thon, Noah's time in minutes, t , and donuts eaten, d , are related by the equation

9. Using the equation $x + 2\frac{1}{2} = 1$

A. Write a story to match

$\frac{4}{3}d = t$. A graph of the equation includes the point (9, 12).

A. Identify the independent variable.

B. What does the point (12, 4) represent in this situation?

C. What point would represent the time it took to eat 6 donuts?

B. Explain what x represents in your story.

C. Solve the equation. Explain or show your reasoning.

10. Select **all** the expressions that are NOT solutions to $4 = \frac{2}{3}x$

A. $4 \div \frac{2}{3}$ B. $4 \cdot \frac{2}{3}$ C. $4 \cdot \frac{3}{2}$ D. 6 E. 12 F. $\frac{2}{3} \div 4$

11. If the perimeter of square is 20in, then what is the area of the square?

12. Solve the following using double number lines AND algebraic equations. Must do both and show work.

A. Elana has raised \$45, which is 30% of what Andre has raised. How much has Andre raised?

B. If Mai has raised 120% of what Andre has raised, how much has Mai raised?

C. Lin has raised \$120. What percentage of Andre's amount did Lin raise?