M-UA.677: Math

Practice Exam

Generated on September 12, 2025

Total: 100 points

---

1. A farmer has a rectangular field measuring 150 meters by 200 meters. He wants to divide the field into square plots of equal size, with the largest possible side length. What is the side length of each square plot, and how many plots will he have?

2. Solve the following system of equations: $2x + 3y = 13$ and $x - y = 1$. Show your work and clearly state the values of x and y.

3. A right-angled triangle has a hypotenuse of length 13 cm and one leg of length 5 cm. Calculate the length of the other leg and the area of the triangle.

4. A circle has a diameter of 14 cm. Calculate the circumference and the area of the circle, using < $, #"órà

5. A train travels at a speed of 80 km/hour for 2.5 hours and then at a speed of 60 km/hour for 1.5 hours. Calculate the total distance traveled by the train.

6. Simplify the following algebraic expression: $3x^2 + 5x - 2x^2 + 7x - 4$.

7. Calculate the volume of a rectangular prism with length 10 cm, width 5 cm, and height 8 cm.

8. What is the value of the expression $(2^3 + 4^2) / (5 - 1)$? Show your steps.

9. If a store offers a 20% discount on an item priced at $75, what is the final price after the discount?

10. A bag contains 5 red marbles, 3 blue marbles, and 2 green marbles. If you randomly select one marble from the bag, what is the probability that it is either red or blue? Express your answer as a fraction.