

Incoming 7th Grade Summer Math Packet

Name: _____

Directions: Complete all problems. Show all work. This packet reviews important skills to help you prepare for next year.

Part 1: Number Operations

1. Compute.

a) $48 + 175 =$ _____

b) $902 - 468 =$ _____

c) $37 \times 24 =$ _____

d) $756 \div 18 =$ _____

e) $3.75 + 8.49 =$ _____

f) $12.4 - 5.87 =$ _____

g) $4.2 \times 1.5 =$ _____

h) $15.6 \div 0.4 =$ _____

2. Evaluate.

a) $4^3 =$ _____

b) $7^2 =$ _____

c) $10^0 =$ _____

d) $2^5 =$ _____

e) $5^3 =$ _____

Part 2: Fractions

3. Simplify.

a) $\frac{18}{24} =$ _____

b) $\frac{21}{35} =$ _____

c) $\frac{36}{54} =$ _____

4. Solve.

a) $\frac{3}{4} + \frac{2}{5} =$ _____

b) $\frac{7}{8} + \frac{1}{4} =$ _____

c) $\frac{2}{3} \cdot \frac{9}{10} =$ _____

d) $\frac{5}{6} \div \frac{1}{2} =$ _____

5. Word Problem

Sarah used $\frac{3}{8}$ of a gallon of paint on Monday and $\frac{1}{4}$ of a gallon on Tuesday.

How much paint did she use altogether?

Part 3: Ratios and Proportions

6. Write the ratio in simplest form.

a) 12 boys to 18 girls

b) 16 red marbles to 24 blue marbles

7. Find the unit rate.

a) \$42 for 6 movie tickets

b) 360 miles in 6 hours

8. Solve the proportion.

a) $\frac{3}{5} = \frac{x}{20}$

b) $\frac{8}{12} = \frac{y}{30}$

c) $\frac{4}{9} = \frac{16}{x}$

Part 4: Percents

9. Convert.

a) 45% to a decimal

b) 0.72 to a percent

c) $\frac{3}{5}$ to a percent

10. Find each percent.

a) 25% of 80

b) 40% of 150

c) 15% of 240

11. Sales Tax

A video game costs \$49.99. Sales tax is 8%.

What is the total cost?

Part 5: Integers

12. Evaluate.

a) $-6 + 12$

b) $-4 - 9$

c) $(-7)(5)$

d) $(-24) \div (-6)$

e) $(-8)(-3)$

13. Temperature Problem

The temperature was 5°F in the morning. It dropped 12°F overnight.

What was the temperature the next morning?

Part 6: Expressions and Equations

14. Evaluate when $x = 4$.

a) $3x + 7$

b) $2x^2$

c) $5x - 9$

15. Simplify.

a) $3x + 5x$

b) $7y - 2y$

c) $4a + 3 - 2a + 6$

16. Solve.

a) $x + 12 = 29$

b) $4x = 52$

c) $3x - 7 = 20$

d) $5(x + 2) = 35$

Part 7: Geometry

17. Find the area.

a) Rectangle: Length = 12 ft, Width = 7 ft

b) Triangle: Base = 10 cm, Height = 8 cm

18. Find the circumference.

Circle radius = 5 cm, Use $\pi \approx 3.14$

19. Find the volume.

Rectangular Prism with a Length = 8 ft, Width = 4 ft, Height = 3 ft

Part 8: Challenge Problems

22.

A store marks up a backpack that costs \$24 by 25%. What is the new price?

23.

A recipe calls for $\frac{3}{4}$ cup of sugar. You are making 3 batches. How much sugar is needed?

24.

A car travels 180 miles using 6 gallons of gas. At the same rate, how far will it travel using 15 gallons?

25.

A rectangle has a perimeter of 36 inches. The length is 4 inches longer than the width. Find the dimensions.