

**SPSG Summer Math Reinforcement Packet Created for Students Entering into
SPSG 7th Grade Algebra 1 in the Fall 2023**

Dear Students and Parents: The purpose of a summer math packet is to review math concepts that are often forgotten during the long break from school. Most of the concepts in this packet were covered in 6th grade.

- Your completed packet will be checked for effort and completion during the first week of school.
- Please show all your work (when possible) to earn full effort credit.
- PLEASE DO NOT USE A CALCULATOR TO COMPLETE ANY OF THE WORK.
- A parent's signature will be required to earn a full effort/completion grade.
- Please pace yourself... completing 10 – 15 problems per week is a perfect pace.

An additional review tool to use is IXL, an online math program, which focuses on skills for the upcoming year. 30-minute practice sessions each week are very beneficial.

Have a wonderful summer!

The SPSG Math Department

Student's First Name: _____ Last Name: _____

The work in this packet was completed independently (without a calculator) by my daughter.

Parent Signature: _____ Date: _____

Find the sum. Write your answer in simplest form.

1. $-\frac{4}{5} + \frac{4}{5}$

2. $-4.4 + (-4.32)$

3. The table shows the change in water level (in centimeters) of a reservoir for three months. Find the total change in the water level for the three-month period.

Month	1	2	3
Change in Water Level	$-1\frac{4}{5}$	$\frac{1}{4}$	$-\frac{5}{12}$

Find the difference. Write your answer in simplest form.

4. $-1\frac{1}{2} - \left(-\frac{1}{5}\right)$

5. $-1.2 - 8.2$

6. At 5 P.M., the total snowfall is 5 centimeters. At 10 P.M., the total snowfall is 14 centimeter. What is the mean hourly snowfall?

7. Write $\frac{42}{5}$ as a decimal.

Find the product. Write your answer in simplest form.

8. $-1\frac{1}{3} \left(-2\frac{1}{3}\right)$

9. $-8.5(-7.2)$

Find the quotient. Write your answer in simplest form.

10. $-\frac{8}{9} \div 1\frac{1}{8}$

11. $-9.8 \div -5.6$

12. Evaluate $\frac{-\frac{9}{2}}{-\frac{1}{7}+1}$. Write your answer in simplest form.

13. An online retailer allows customers to rate items. An item received scores of 2.75, 1, 0, -3.25 , -1 , and 3.5. Find the mean score.

14. Simplify completely: $\frac{2}{3}x - 7 - \frac{1}{3}x - 2$

15. Each person in a group buys a movie ticket, a drink, and a popcorn. How much does the group pay when there are 4 people in the group?

Item	Ticket	Drink	Popcorn
Price	\$6.00	\$3.25	\$3.00

16. Simplify the expressions completely.

A. $\left(\frac{1}{2}x - 10\right) - \left(\frac{1}{4}x - 3\right)$

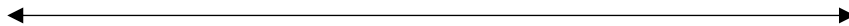
B. $\frac{1}{4}(8x - 20) + 2x$

17. Factor $\frac{1}{6}$ out of $\frac{1}{6}x - \frac{5}{6}$

18. Solve for x. $\frac{x}{4} - \frac{1}{2} = -\frac{5}{2}$

19. You install 420 feet of fencing along the perimeter of a rectangular yard. The width of the yard is 104 feet. What is the length of the yard?

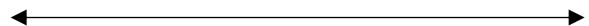
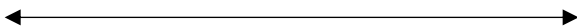
20. In a game, you pilot a spaceship and gain a point for every asteroid you destroy. The game ends when your ship is hit by an asteroid. You already have 267 points. Graph your possible final scores for the game on a number line.



21. Graph the solution of the inequalities on a number line.

A. $2x < 12$

B. $\frac{d}{4} + 1 \geq 0$



22. A person jogs $\frac{1}{5}$ mile in $\frac{1}{25}$ hour. What is the person's speed in miles per hour?

23. Tell whether $27 : 6$ and $9 : 2$ form a proportion.

24. A graph shows the density of a substance, where x is the mass (in kilograms) and y is the volume (in liters). The graph is a line through the points $(1, \frac{1}{2})$ and $(2, 1)$. Find the density in kilograms per liter.

25. Write an equation for the proportional relationship shown in the table below.

x	0.5	1	1.5	2
y	36	72	108	144

26. Find the constant of proportionality, k , in the equation $y = 37x$.

27. A scale drawing of a square has a side length of 5 inches. The drawing has a scale of $1 \text{ in.} : 3 \text{ mi.}$ Find the actual perimeter and area of the square.

28. Write 36% as a decimal.

29. Write 0.58 as a percent.

30. You estimate that there are 46 marbles in a jar. The actual amount is 71 marbles. Find the percent error. Round to the nearest tenth of a percent.

31. Find the selling price of a \$20 item after a 30% markup.

32. You deposit \$400 in a savings account. The account earns 2% simple interest per year. What is the interest earned after 2 years? The balance after 2 years?

33. The probability of an even is 80%. Describe the likelihood of the event.

34. Find the circumference of a circle with a radius of 11 meters. Use 3.14 for π .