



Southington High School

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Dear Students,

Enclosed you will find a comprehensive set of problems which reflect critical math skills that must be mastered prior to entering your Foundations of Algebra class at Southington High School. You are encouraged to develop a wide range of ways for finding the correct answer, including techniques both with and without the aid of a calculator*. Working with a friend, sibling, or parent might be a helpful way to complete this assignment!

On the second day of school, your teachers will check your packets for completion and count it as your first three homework grades. In order to receive full credit for the assignment, you must attempt each problem and show all work used to complete it. The answers are provided as a means to assess your own work. During the first few days of school, your teachers will provide you with an opportunity to review your work from this packet. Soon thereafter, you will be given your first quiz that addresses these skills.

Our goal is for you to have a successful and enjoyable transition into your Algebra I class at Southington High School. This packet is meant to facilitate this process. Try your best and remember your teachers will help you upon your return.

Sincerely,

Mr. David Kowalchuk
Mathematics Department Chair
Southington High School
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Frank Pepe
Principal

*Reminder: A graphing calculator is an important tool used within this course. Students are strongly encouraged to obtain one for their personal use. Copies of this packet may be found on the Southington High School Website. Go to www.southingtonschools.org and click on the link to Parent Resources



Section 1: Multiple Choice: Circle the letter of the correct answer.

1. Find the sum of $59a + 619a$.

A 560a

B 678

C 678a

D 668a

2. Find the product of 21 and $12y$.

A 252y

B 63y

C 144y

D 33y

3. Find the quotient of $2.4 \div 0.3$.

A 80

B 0.8

C 8

D 0.72

4. Multiply 0.0045 and 100.

A 0.045

B 4.500

C 0.45

D 0.000045

5. Use distributive property to simplify $7(m + 4n)$.

A $7m + 4n$

B $7(m + 28n)$

C $(7m + 4)n$

D $7m + 28n$

6. Use distributive property to simplify $3(2x - 6y)$.

A $5x - 9y$

B $6x - 18y$

C $6x - 6y$

D $5x - 6y$

Section 1: Open Ended Questions

Directions: Find each sum, difference, product, or quotient. If possible, express your answer in simplest form.

9. $1,204 - 873$

10. $120c \div 8$

11. $11.05 + 2.6$

12. $10.4 \times 1.2y$

Directions: Write an algebraic expression.

13. The product of thirteen and some number. _____

14. Four less than some number. _____

Directions: Evaluate.

15. $a + 2.09$ when $a = 3.7$

16. $19.61 - w$ when $w = 13.7$

Directions Factor each expression.

17. $4x + 12y$ _____

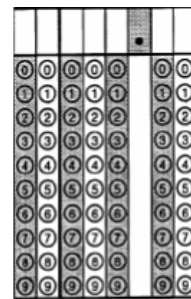
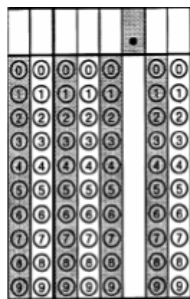
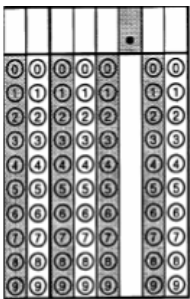
18. $9 + 3w + 6x$ _____

Directions Use order of operations to evaluate. Grid your answer in the grids below.

19. $5 + 10 \div 2 - 3$

20. $20 - 32 \div (12 \times 4)$

21. $37 \times (10 - 5) + 1$



Directions: Simplify each of the following. (Remember to use PEMDAS!)

22. $4(6-3)2 \cdot 5-3$

23. $5(8-4)2 \cdot 6-2$

Directions: Simplify the following, using exponents.

24. $x \cdot x \cdot x \cdot x \cdot x \cdot x =$

25. $w \cdot w \cdot w =$

Section 1: Word Problems

Directions Solve these problems. Show your work please.

26. Dean read 28 pages of a book before dinner. Later in the evening, he read 63 more pages. The next morning, he read 16 more pages. In all, how many pages of the book did he read?

27. Carlo works in the school bookstore counting books. He counts 53 math books, 37 science books, and 137 social studies books. How many books does he count in total?

28. Students in two classes calculated the amount of time each class spent on homework during one week. Class A spent 401 hours and Class B spent 386 hours. How many more hours did Class A spend on homework?

29. There are 781 students in Glen Cove School. At the Desert View School there are 159 fewer students. How many students attend Desert View School?

30. Ann put 37 books on each of 16 shelves. How many books did she shelve in total?

31. A factory worker packs 24 videotapes in each carton. The worker packed 86 cartons. How many videotapes were packed in total?

32. Emma bought 10 hair bands. Each hair band cost \$2.39. What was the total amount that Alison spent for the hair bands?

33. A school cafeteria has 72 tables. It has 576 chairs. How many chairs can be placed around each table so that there is an equal number for each table?

34. Southington High School sold 1,000 school T-shirts. Each T-shirt cost \$18.79. What was the total amount of money spent for T-shirts?

35. An airplane traveled 941.726 miles in one trip. How many miles would the plane go in 100 trips with the same mileage?
36. Katie walks 4.2 miles every day. How many total miles will she walk in one year (*remember there are 365 days in a year*)?
37. Lee uses 1.25 cups of sugar in each cake she bakes. She bakes 14 cakes. How many cups of sugar will she need in total?
38. Annie bought a package of 100 pens for \$167.00. How much did each pen cost?
39. A library purchased 1,000 books for \$18,670. What was the average cost of each book?
40. Marisa bought a box of 8 cards for \$10.80. What was the cost of each card?
41. Edward was wallpapering a wall. The wall was 247.5 inches wide. He needed exactly 9 sheets of wallpaper to cover the wall. How wide was each sheet of wallpaper?
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Section 2: Multiple Choice: Circle the letter of the correct answer.

1. Write in standard form: 2.41×10^{-3}
- A 0.00241
 - B 0.241
 - C 2,410
 - D 241,000
2. What is the greatest common factor of 12 and 20?
- A 3
 - B 5

C 12

D 4

3. Find the least common multiple of (18, 54).

A 972

B 18

C 54

D 1

4. Write in standard form 3.7×10^4

A 0.0037

B 3.700

C 0.37

D 37000

Section 2: Open Ended Questions

Directions: Find the least common multiple.

5. LCM (13, 3) _____

6. LCM (15, 25) _____

7. LCM (35, 14) _____

Directions: Find the greatest common divisor (factor).

8. GCD (33, 22) _____

9. GCD (27, 33) _____

10. GCD (24, 60, 48) _____

Directions: Add or subtract the fractions using the LCM.

11. $\frac{4}{5} + \frac{9}{7}$ _____

12. $\frac{7}{10} + \frac{2}{15}$ _____

13. $\frac{5}{8} - \frac{1}{6}$ _____

14. $\frac{2}{5} + \frac{3}{8} + \frac{7}{20}$ _____

Directions: Write in scientific notation

15. 12,000 _____

16. 0.0004402 _____

17. 31,000,000,000 _____

Directions: Tell whether each number is *prime* or *composite*. If composite, list the factors.

18. 20 _____

19. 11 _____

20. 6 _____

Section 2 Word Problems

Directions: Solve. Find the GCF. Show your work please.

21. Two classes planned a group project. There were 36 students in one class and 42 in the other. They decided to divide up into smaller groups of equal numbers. How many people would be in each group?

Directions: Solve. Find the LCM. Show your work please.

22. A bread-truck driver makes 24 stops a month at a grocery store. A produce driver makes 15 stops at the grocery store. If the two drivers meet today, how many stops will it be before they meet again?

Directions: Solve. Write your answer using scientific notation. Show your work please.

23. One city has a population of about 2,840,000 people. Another city has about 3,120,000 people. About how many people live in both cities?

Section 3: Multiple Choice: Circle the letter of the correct answer.

1. Express $\frac{40}{16}$ as a mixed number in simplest form.

2. Order $\frac{2}{5}, \frac{3}{10}, \frac{9}{20}$ from least to greatest.

3. Find the sum of $\frac{14}{18} + \frac{5}{18}$. Give the answer in simplest form.

4. Which fraction below is an improper fraction?

A $5\frac{5}{6}$ B $\frac{9}{10}$ C $\frac{12}{5}$ D $\frac{3}{6}$

5. Simplify the fraction completely: $\frac{18}{24}$

A $\frac{9}{12}$ B $\frac{6}{8}$ C $\frac{3}{4}$ D $\frac{4}{6}$

Directions: Write two equivalent fractions for each fraction.

6. $\frac{3}{4}$ _____ 7. $\frac{5}{12}$ _____

Directions: Express each fraction in simplest form.

8. $\frac{4}{12}$ _____ 9. $\frac{8}{56}$ _____

Directions: Compare. Write $>$ or $<$ or $=$.

10. $\frac{7}{16}$ _____ $\frac{1}{4}$ 11. $1\frac{1}{2}$ _____ $1\frac{1}{3}$

Directions: Order from greatest to least. (Find a common denominator first)

12. $\frac{1}{3}$ $\frac{5}{8}$ $\frac{13}{24}$

13. $\frac{2}{5}$ $\frac{2}{9}$ $\frac{2}{11}$

Directions: Find each sum or difference. Write your answer in simplest form.

14. $2\frac{4}{7} - 1\frac{3}{7}$ _____ 15. $\frac{8x}{9} - \frac{2x}{9}$ _____

16. $\frac{11}{20} - \frac{5}{20}$ _____ 17. $\frac{1}{5} + \frac{4}{5}$ _____

18. $\frac{2}{3} + \frac{3}{3}$ _____ 19. $2\frac{2}{9} + 4\frac{8}{9}$ _____

Section 4: Multiple Choice: Circle the letter of the correct answer.

1. Rewrite 80% as a decimal.

- A 80
- B 0.08
- C 0.8
- D 8

2. Rewrite 7.41 as a percent.

- A 7.41%
- B 74.1%
- C 0.741%
- D 741%

3. Rewrite $\frac{4}{50}$ as a decimal.

- A 0.4
- B 0.8
- C 0.08
- D 0.450

4. Rewrite 0.052 as a fraction.

- A $\frac{52}{100}$
- B $\frac{52}{1000}$
- C $\frac{52}{10}$
- D $\frac{52}{10000}$

Section 4: Open Ended Questions

Directions: Round each decimal to the indicated place.

5. 2.74 (tenth) _____

6. 14.0966 (thousandth) _____

7. 3.905 (hundredth) _____

8. 88.927 (whole number) _____

9. 387.56 (tens) _____

Directions: Rewrite each percent as a decimal.

10. 6% _____ 13% _____ $4\frac{1}{2}\%$ _____

Directions: Rewrite each decimal as a percent.

11. 0.43 _____ 1.25 _____ 0.02 _____

Directions: Write each decimal as a fraction in simplest form.

12. 0.35 _____

13. 0.004 _____

Directions: Write each fraction as a terminating or repeating decimal.

14. $\frac{5}{25}$ _____

15. $\frac{41}{500}$ _____

16. $\frac{2}{11}$ _____

Directions: Compare each decimal using “<”, or “>” or “=”.

17. 6.028 _____ 6.07

18. 0.237 _____ 0.28

19. 478.945 _____ 479.945

Directions: Order the following decimals from LEAST to GREATEST.

20. 17.235 17.28 17.378 17.20

21. 0.953 0.905 0.926 0.9

22. 662.895 663.90 662.9 662.80

