OAK HALL SCHOOL

2024-2025

Suggested Review Exercises
for students entering

Upper School
Algebra 1

A message from the Math Department

Mathematics is a subject that is cumulative in nature as it constructs new knowledge from foundational prior knowledge. Therefore, as it is imperative to our students' success, we require them to have mastered certain skills and concepts before entering a new math course.

Each course in the math department has provided suggested exercises for incoming students as a resource for them to review the required prerequisites that are critical to their success in the course. While we will not be requiring students to complete these exercises as a formal assignment to be turned in, we have the highest expectations of our students as self-aware, proactive learners. Each student is responsible for gauging which prerequisites they need to reinforce and how much studying they need to do for them to start the new school year feeling confident, prepared, and accomplished.

We recommend that our students begin this process mid to late summer in order for everything to be fresh in their minds but also to give them time to recover from the school year they just completed. Rest is not an indulgence; it is a human necessity. We hope everyone has a safe, fun, and restful summer and we look forward to having another great school year when we come back in August!

Write each as a percent. Write remainders as a fraction.

1) $\frac{1}{5}$

Simplify each expression.

2) $-1 + 5(r - 7)$

Evaluate each expression.

3) $\left(-\frac{5}{3}\right) + 19\frac{5}{8} - \left(-1\frac{10}{37}\right)$

Find each quotient.

4) $4\frac{1}{12} \div -3\frac{4}{7}$

Simplify. Your answer should contain only positive exponents.

5) $\frac{4x^5y^0}{10xy}$

Evaluate each expression.

6) $(-49.4) + (-9.2) - (-36.1)$

Evaluate each using the values given.

7) $(-7) + y + x - 10$; use $x = -8$, and $y = 6$

Simplify each. Write your answer as a mixed number when possible.

8) $8\frac{9}{18}$

Solve each equation.

9) $2(3v + 6) = 12 + 6v$

Find the LCM of each.

10) 36, 27

Write each as a percent. Write remainders as a fraction.

11) $5\frac{3}{4}$

Find each quotient.

12) $-8.5 \div -3.4$

Solve each proportion.

13) $\frac{5}{n} = \frac{6}{10}$

Solve each equation.

14) $-10x - 8 = 142$

Find the GCF of each.

15) $33, 22u, 44u$

Simplify each expression.

16) $-3 + 5(8 + 7v)$

17) $-6 - 2(-5x - 2)$

Evaluate each using the values given.

18) $hj \times \left(-\frac{9}{3}\right)$; use $h = -2$, and $j = -10$

Find each quotient.

19) $\frac{3}{10} \div 4\frac{1}{5}$

Evaluate each expression.

20) $\left(-\frac{29}{16}\right) - \left(-\frac{77}{40}\right) - \left(-\frac{6}{5}\right)$

21) $2 \times 1 \div \frac{1}{2}$

Find each product.

22) -0.1×-6.17

23) Huong won 35 pieces of gum playing basketball at the county fair. At school she gave one to every student in her math class. She only has 12 remaining. How many did she give away?

Solve each proportion.

24) $\frac{2}{x} = \frac{4}{11}$

Write each as a percent. Write remainders as a fraction.

25) $2\frac{1}{2}$

26) $\frac{13}{33}$

27) A wise man once said, "500 reduced by twice my age is 362." What is his age?

Evaluate each expression.

28) $10 - 2 + (-2) + 5$

29) $(-4) \times 4 + 10 \times (-4)$

Evaluate each using the values given.

30) $5ba - b$; use $a = 2$, and $b = -10$

Solve each proportion.

31) $\frac{n}{3} = \frac{4}{7}$

Write each as a percent. Write remainders as a fraction.

32) $\frac{2}{3}$

Find the LCM of each.

33) $30u^2$, $30uv$, $20u$

Evaluate each expression.

34) $1\frac{2}{3} + 2\frac{1}{4} - \frac{2}{3}$

Round each to the place indicated.

35) 1,696; tens

Solve each equation.

36) $6b - 32 = -8b + 6(7b + 4)$

Round each to the place indicated.

37) 648,994; hundred thousands

Evaluate each expression.

38) $16 + (-17) - 21\frac{9}{10}$

Simplify each expression.

39) $8 + 6(3x - 4)$

Solve each equation.

40) $-2(1 - 4x) = -26 + 2x$

Evaluate each expression.

41) $(-39.5) + (-31.2) + 17.6$

Find each product.

42) 19.6×-17.9

Round each to the place indicated.

43) 50,015,238; thousands

Simplify. Your answer should contain only positive exponents.

44) $\dfrac{10m^0}{5m^3n^4}$

Find the LCM of each.

45) $25m^2$, $6n$, $27m$

Find the GCF of each.

46) 27, 36

Evaluate each expression.

47) $5\frac{4}{7} - \left(-\frac{1}{3}\right) + 4\frac{9}{11}$

48) Dan had some candy to give to his five children. He first took nine pieces for himself and then evenly divided the rest among his children. Each child received three pieces. With how many pieces did he start?

Evaluate each expression.

49) $\left(-\frac{2}{5}\right) - \frac{5}{3} + \frac{28}{25}$

Simplify each expression.

50) $-(n + 6) + 1$

Write each as a percent. Write remainders as a fraction.

51) $3\frac{21}{100}$

Solve each equation.

52) $8n + 10 = 74$

Find the GCF of each.

53) 24, 20

Simplify each expression.

54) $3(x + 4) + 6x$

Find the GCF of each.

55) $36x^2, 24x^2y, 36y^2x$

Find the LCM of each.

56) 40, 24

57) At a restaurant, James and his ten friends decided to divide the bill evenly. If each person paid $8, then what was the total bill?

Evaluate each expression.

58) $(-2) - \frac{9}{9} - (-10)$

Write each as a percent. Write remainders as a fraction.

59) $2\frac{3}{10}$

Evaluate each expression.

60) $21\frac{31}{43} + \left(-2\frac{11}{48}\right) + 14\frac{12}{43}$

Simplify each expression.

61) $4(8 + 6n) - 8n$

Evaluate each expression.

62) $(-8) + (-4) - 4 + 7$

Evaluate each using the values given.

63) $b - a - 6a$; use $a = 3$, and $b = -10$

Solve each equation.

64) $-7 + 6(4 - 8x) = -24 - 7x$

Solve each proportion.

65) $\frac{2}{4} = \frac{p}{6}$

Algebra 1 Name_____

Summer Assignment

Write each as a percent. Write remainders as a fraction.

1) $\frac{1}{5}$

20%

Simplify each expression.

2) $-1 + 5(r - 7)$

$-36 + 5r$

Evaluate each expression.

3) $\left(-\frac{5}{3}\right) + 19\frac{5}{8} - \left(-1\frac{10}{37}\right)$

$19\frac{203}{888}$

Find each quotient.

4) $4\frac{1}{12} \div -3\frac{4}{7}$

$-1\frac{43}{300}$

Simplify. Your answer should contain only positive exponents.

5) $\frac{4x^5y^0}{10xy}$ $\frac{2x^4}{5y}$

Evaluate each expression.

6) $(-49.4) + (-9.2) - (-36.1)$

-22.5

Evaluate each using the values given.

7) $(-7) + y + x - 10$; use $x = -8$, and $y = 6$

-19

Simplify each. Write your answer as a mixed number when possible.

8) $8\frac{9}{18}$

$8\frac{1}{2}$

Solve each equation.

9) $2(3v + 6) = 12 + 6v$

{ All real numbers. }

Find the LCM of each.

10) 36, 27

108

Write each as a percent. Write remainders as a fraction.

11) $5\frac{3}{4}$

575%

Find each quotient.

12) $-8.5 \div -3.4$

2.5

Solve each proportion.

13) $\frac{5}{n} = \frac{6}{10}$

$\{8.33\}$

Solve each equation.

14) $-10x - 8 = 142$

$\{-15\}$

Find the GCF of each.

15) $33, 22u, 44u$

11

Simplify each expression.

16) $-3 + 5(8 + 7v)$

$37 + 35v$

17) $-6 - 2(-5x - 2)$

$-2 + 10x$

Evaluate each using the values given.

18) $hj \times \left(-\frac{9}{3}\right)$; use $h = -2$, and $j = -10$

-60

Find each quotient.

19) $\frac{3}{10} \div 4\frac{1}{5}$

$\frac{1}{14}$

Evaluate each expression.

20) $\left(-\frac{29}{16}\right) - \left(-\frac{77}{40}\right) - \left(-\frac{6}{5}\right)$ $1\frac{5}{16}$

21) $2 \times 1 \div \frac{1}{2}$

4

Find each product.

22) -0.1×-6.17

0.617

23) Huong won 35 pieces of gum playing basketball at the county fair. At school she gave one to every student in her math class. She only has 12 remaining. How many did she give away?

23

Solve each proportion.

24) $\frac{2}{x} = \frac{4}{11}$

$\{5.5\}$

Write each as a percent. Write remainders as a fraction.

25) $2\frac{1}{2}$

250%

26) $\frac{13}{33}$

$39\frac{13}{33}\%$

27) A wise man once said, "500 reduced by twice my age is 362." What is his age?

69

Evaluate each expression.

28) $10 - 2 + (-2) + 5$

11

29) $(-4) \times 4 + 10 \times (-4)$

−56

Evaluate each using the values given.

30) $5ba - b$; use $a = 2$, and $b = -10$

-90

Solve each proportion.

31) $\frac{n}{3} = \frac{4}{7}$

$\{1.71\}$

Write each as a percent. Write remainders as a fraction.

32) $\frac{2}{3}$

$66\frac{2}{3}\%$

Find the LCM of each.

33) $30u^2$, $30uv$, $20u$

$60u^2v$

Evaluate each expression.

34) $1\frac{2}{3} + 2\frac{1}{4} - \frac{2}{3}$

$3\frac{1}{4}$

Round each to the place indicated.

35) 1,696; tens

1,700

Solve each equation.

36) $6b - 32 = -8b + 6(7b + 4)$

$\{-2\}$

Round each to the place indicated.

37) 648,994; hundred thousands

600,000

Evaluate each expression.

38) $16 + (-17) - 21\frac{9}{10}$

$-22\frac{9}{10}$

Simplify each expression.

39) $8 + 6(3x - 4)$

$-16 + 18x$

Solve each equation.

40) $-2(1 - 4x) = -26 + 2x$

$\{-4\}$

Evaluate each expression.

41) $(-39.5) + (-31.2) + 17.6$

-53.1

Find each product.

42) 19.6×-17.9

-350.84

Round each to the place indicated.

43) 50,015,238; thousands

50,015,000

Simplify. Your answer should contain only positive exponents.

44) $\dfrac{10m^0}{5m^3n^4}$

$\dfrac{2}{m^3n^4}$

Find the LCM of each.

45) $25m^2$, $6n$, $27m$

$1350m^2n$

Find the GCF of each.

46) 27, 36

9

Evaluate each expression.

47) $5\frac{4}{7} - \left(-\frac{1}{3}\right) + 4\frac{9}{11}$ $10\frac{167}{231}$

48) Dan had some candy to give to his five children. He first took nine pieces for himself and then evenly divided the rest among his children. Each child received three pieces. With how many pieces did he start?

24

Evaluate each expression.

49) $\left(-\frac{2}{5}\right) - \frac{5}{3} + \frac{28}{25}$

$-\frac{71}{75}$

Simplify each expression.

50) $-(n + 6) + 1$

$-n - 5$

Write each as a percent. Write remainders as a fraction.

51) $3\frac{21}{100}$

321%

Solve each equation.

52) $8n + 10 = 74$

{8}

Find the GCF of each.

53) 24, 20

4

Simplify each expression.

54) $3(x + 4) + 6x$

$9x + 12$

Find the GCF of each.

55) $36x^2, 24x^2y, 36y^2x$

$12x$

Find the LCM of each.

56) 40, 24

120

57) At a restaurant, James and his ten friends decided to divide the bill evenly. If each person paid $8, then what was the total bill?

$88

Evaluate each expression.

58) $(-2) - \frac{9}{9} - (-10)$

7

Write each as a percent. Write remainders as a fraction.

59) $2\frac{3}{10}$

230%

Evaluate each expression.

60) $21\frac{31}{43} + \left(-2\frac{11}{48}\right) + 14\frac{12}{43}$

$33\frac{37}{48}$

Simplify each expression.

61) $4(8 + 6n) - 8n$

$32 + 16n$

Evaluate each expression.

62) $(-8) + (-4) - 4 + 7$

-9

Evaluate each using the values given.

63) $b - a - 6a$; use $a = 3$, and $b = -10$

-31

Solve each equation.

64) $-7 + 6(4 - 8x) = -24 - 7x$

$\{1\}$

Solve each proportion.

65) $\frac{2}{4} = \frac{p}{6}$

$\{3\}$