



Dear Rising Form I Students,

Attached to this letter is a summer work packet for you. The packet is divided into three sections – June, July and August to encourage you to do work throughout the summer rather than saving it for the last weeks of August. Practicing concepts at regular intervals will help you retain the information better and reduce some of the dreaded summer slide.

The concepts in the first part of the packet (through order of operations) are ideas that we expect you to have mastered by the time you complete 6th grade. If you are struggling with any of these topics, please watch some tutorials on YouTube or practice with IXL. The topics of evaluating expressions, combining like terms and the Distributive Property were introduced this year and you will study them in greater depth at the start of your Algebra class.

An answer key is provided with the packet so you can check your work and know which concepts you understand and which ones you still need to practice.

This packet is highly recommended and we will be collecting it at the start of the school year to see who completed it. After a brief review, you will take an assessment based on problems #1-21 so that we can be sure you have mastered that material.

If you would like additional work, you can practice with IXL. We provided [this list of topics](#) that we think would help you practice concepts from this year.

We very much enjoyed teaching you this year and we hope you enjoy your break this Summer.

Best,

Ms. Nelson and Mr. Romero

Name _____

Form I Algebra I, Part 1 Summer Work
June Problems

Operations with Fractions

Write each answer as a simplified fraction.

1. $\frac{2}{3} + \frac{4}{7} =$

2. $\frac{13}{15} - \frac{7}{10} =$

3. $\frac{24}{55} \times \frac{5}{16} =$

4. $\frac{28}{45} \div \frac{7}{18} =$

5. $\frac{22}{27} + \frac{5}{9} - \frac{2}{27} =$

6. $\frac{3}{8} \times \frac{20}{21} \times \frac{14}{15} =$

Integer Operations

Simplify.

7. $14 + (-7) =$

8. $-12 + (-2) =$

9. $(-14) - 10 =$

10. $(-11) - (-13) =$

$$11. 48 - 37 + (-14) - 40 =$$

$$12. 34 + (-47) + (-37) - (-21) =$$

$$13. 9(-11) =$$

$$14. -6 \cdot 12 =$$

$$15. (-5)(-1)(4) =$$

$$16. (-9)(-4)(-6) =$$

$$17. -40 \div (-20) =$$

$$18. \frac{35}{-7} =$$

Order of Operations

Use the Order of Operations to simplify each expression. Show your work clearly.

$$19. 1 + 30 \div (9 - 11) =$$

$$20. [9 - (1 + 5)]^2 \times 2 =$$

$$21. (6 \cdot 2) \div (-2 \times 1^2)$$

Evaluating Expressions

Evaluate each expression for the given variables.

22. $x(xz - z)$; for $x = 4$ and $z = 10$

23. $m + n^2 \div (-4)$, for $m = -15$, and $n = 14$

Combining Like Terms

Simplify each expression by combining like terms.

24. $1 + 14n - 11$

25. $-n - 4n$

26. $2n + 14 + n + 6$

27. $-6m + 3 - 14m + 2$

Distributive Property

Simplify each expression using the Distributive Property.

28. $12(2x + 1)$

29. $-4(-10 - x)$

30. $10(9 + 6x)$

31. $-4(9w + 11)$

Solving Equations

Solve each equation and show how you keep it balanced. Check your work.

32. $2 = p + 14$

33. $17n = 51$

34. $\frac{1}{6} = x - \frac{5}{3}$

35. $\frac{m}{5} = 12$

Name _____

Form I Algebra Summer Work
July Problems

Operations with Fractions

Write each answer as a simplified fraction.

1. $\frac{11}{15} + \frac{2}{3} =$

2. $\frac{7}{9} - \frac{2}{15} =$

3. $\frac{32}{35} \times \frac{15}{16} =$

4. $\frac{6}{25} \div \frac{7}{10} =$

5. $\frac{5}{11} + \frac{1}{2} - \frac{3}{22} =$

6. $\frac{5}{12} \div \frac{25}{28} \times \frac{1}{14} =$

Integer Operations

Simplify.

7. $22 + (-10) =$

8. $-31 + (-7) =$

9. $(-19) - 30 =$

10. $(-15) - (-9) =$

11. $13 - 8 + 20 - (-24) =$

12. $12 + (-39) - 11 - (-25) =$

13. $-7(-11) =$

14. $-8 \cdot (-7) =$

15. $(-6)(-5)(-7) =$

16. $(-4)(-4)(7) =$

17. $-108 \div (-12) =$

18. $\frac{-30}{10} =$

Order of Operations

Use the Order of Operations to simplify each expression. Show your work clearly.

19. $(15 \times 2) \div 10 + 8 =$

20. $(4 - 5)^2 + 10 =$

21. $(15 \cdot 2) \div (1^3 + 4)$

Evaluating Expressions

Evaluate each expression for the given variables.

22. $y - (z + y) \div 5$; for $y = 15$ and $z = 10$

23. $z \div 6 + yz$, for $y = 6$, and $z = 12$

Combining Like Terms

Simplify each expression by combining like terms.

24. $5x + 8x$

25. $-n - 8 + 12n + 10$

26. $-x + 13 - 14 + 13x$

27. $1 + 11x - 4 - 12x$

Distributive Property

Simplify each expression using the Distributive Property.

28. $2(13n + 6)$

29. $-7(7v + 11)$

30. $-13(v - 2)$

31. $-14(1 - 2x)$

Solving Equations

Solve each equation and show how you keep it balanced. Check your work.

32. $2p = 20$

33. $9 + n = 50$

34. $\frac{5}{9} = x - \frac{5}{3}$

35. $\frac{y}{7} = 9$

Name _____

**Form I Algebra Summer Work
August Problems**

Operations with Fractions

Write each answer as a simplified fraction.

1. $\frac{21}{25} + \frac{3}{10} =$

2. $\frac{11}{12} - \frac{3}{8} =$

3. $\frac{42}{45} \times \frac{10}{21} =$

4. $\frac{3}{20} \div \frac{6}{25} =$

5. $\frac{2}{7} + \frac{5}{4} - \frac{9}{14} =$

6. $\frac{7}{9} \times \frac{24}{25} \div \frac{4}{15} =$

Integer Operations

Simplify.

7. $33 + (-16) =$

8. $-24 + (-8) =$

9. $(-41) - 50 =$

10. $(-9) - (-9) =$

$$11. 24 - 16 + 30 - (-7) =$$

$$12. 5 + (-12) - 32 - (-18) =$$

$$13. -5(-12) =$$

$$14. -4 \cdot (-12) =$$

$$15. (-8)(-2)(-4) =$$

$$16. (-5)(-10)(100) =$$

$$17. -132 \div (-12) =$$

$$18. \frac{42}{-7} =$$

Order of Operations

Use the Order of Operations to simplify each expression. Show your work clearly.

$$19. 15 - 8 - (9 - 13) =$$

$$20. 1 + 8 + 11 \times (-6) =$$

$$21. (6 - 4 + 2 \cdot 6) \div (-2)$$

Evaluating Expressions

Evaluate each expression for the given variables.

22. $x + (x + z)^2$; for $x = -3$ and $z = 2$

23. $k - k + kh$, for $k = 9$, and $h = 9$

Combining Like Terms

Simplify each expression by combining like terms.

24. $4x + 4 - 2$

25. $m - 5 - 4 + 4m$

26. $-6p + 12 - 1 + 2p$

27. $12w + 12w - 4 - 2w$

Distributive Property

Simplify each expression using the Distributive Property.

28. $8(8v + 7)$

29. $-4(12n + 11)$

30. $-6(3y - 4)$

31. $5(-11 - 12x)$

Solving Equations

Solve each equation and show how you keep it balanced. Check your work.

32. $8p = 56$

33. $n - 24 = 30$

34. $\frac{7}{10} = x - \frac{3}{4}$

35. $\frac{y}{5} = 10$

Name _____

Form I Algebra I, Part 1 Summer Work
June Problems

Operations with Fractions

Write each answer as a simplified fraction.

1. $\frac{2^7}{3^7} + \frac{4^3}{7^3} =$

$\frac{14}{21} + \frac{12}{21} = \frac{26}{21} = 1\frac{5}{21}$

2. $\frac{13^2}{15^2} - \frac{7^3}{10^3} =$

$\frac{26}{30} - \frac{21}{30} = \frac{5}{30} = \frac{1}{6}$

3. $\frac{24}{85} \times \frac{51}{162} = \frac{3}{22}$

4. $\frac{28}{45} \div \frac{7}{18} =$

$\frac{428}{545} \times \frac{18}{71} = \frac{8}{5} = 1\frac{3}{5}$

5. $\frac{22}{27} + \frac{5}{9} - \frac{2}{27} =$

$\frac{22}{27} + \frac{15}{27} - \frac{2}{27}$

$\frac{37}{27} - \frac{2}{27}$

$\frac{35}{27} = 1\frac{8}{27}$

6. $\frac{1}{2} \times \frac{20}{21} \times \frac{1}{3} = \frac{1}{3}$

Integer Operations

Simplify.

7. $14 + (-7) = 7$

8. $-12 + (-2) = -14$

9. $(-14) - 10 = -24$

10. $(-11) - (-13) = 2$

$-11 + 13$

$$11. 48 - 37 + (-14) - 40 =$$

$$11 + (-14) - 40$$

$$-3 - 40$$

$$(-43)$$

$$13. 9(-11) = (-99)$$

$$15. (-5)(-1)(4) = (20)$$

$$17. -40 \div (-20) = (2)$$

$$12. 34 + (-47) + (-37) - (-21) =$$

$$-13 + (-37) + 21$$

$$-50 + 21$$

$$(-29)$$

$$14. -6 \cdot 12 = (-72)$$

$$16. (-9)(-4)(-6) = (-216)$$

$$18. \frac{35}{-7} = (-5)$$

Order of Operations

Use the Order of Operations to simplify each expression. Show your work clearly.

$$19. 1 + 30 \div (9 - 11) =$$

$$1 + 30 \div (-2)$$

$$1 + (-15)$$

$$(-14)$$

$$20. [9 - (1 + 5)]^2 \times 2 =$$

$$[9 - (6)]^2 \times 2$$

$$[3]^2 \times 2$$

$$9 \times 2$$

$$(18)$$

$$21. (6 \cdot 2) \div (-2 \times 1^2)$$

$$12 \div (-2 \times 1)$$

$$12 \div (-2)$$

$$(-6)$$

Evaluating Expressions

Evaluate each expression for the given variables.

22. $x(xz - z)$; for $x = 4$ and $z = 10$

$$4(4 \cdot 10 - 10)$$

$$4(40 - 10)$$

$$4(30)$$

$$120$$

23. $m + n^2 \div (-4)$, for $m = -15$, and $n = 14$

$$-15 + (14^2 \div (-4))$$

$$-15 + 196 \div (-4)$$

$$-15 + (-49)$$

$$-64$$

Combining Like Terms

Simplify each expression by combining like terms.

24. $1 + 14n - 11$

$$14n - 10$$

25. $-n - 4n$

$$-5n$$

26. $2n + 14 + n + 6$

$$3n + 20$$

27. $-6m + 3 - 14m + 2$

$$-20m + 5$$

Distributive Property

Simplify each expression using the Distributive Property.

28. $12(2x + 1)$

$$24x + 12$$

29. $-4(-10 - x)$

$$40 + 4x$$

30. $10(9 + 6x)$

$$90 + 60x$$

31. $-4(9w + 11)$

$$-36w - 44$$

Solving Equations

Solve each equation and show how you keep it balanced. Check your work.

32. $2 = p + 14$

$$\begin{array}{r} -14 \quad -14 \\ \hline \end{array}$$

$$\textcircled{-12 = p}$$

check

$$\checkmark 2 = -12 + 14$$

33. $17n = 51$

$$\begin{array}{r} \overline{17} \quad \overline{17} \\ \hline \end{array}$$

$$\textcircled{n = 3}$$

check

$$17 \cdot 3 = 51 \checkmark$$

34. $\frac{1}{6} = x - \frac{5}{3}$

$$\begin{array}{r} \frac{1}{6} = x - \frac{10}{6} \\ + \frac{10}{6} \quad + \frac{10}{6} \\ \hline \end{array}$$

$$\frac{11}{6} = x$$

$$\textcircled{1\frac{5}{6} = x}$$

check

$$\frac{11}{6} - \frac{10}{6}$$

$$\frac{1}{6} \checkmark$$

35. $5x \frac{m}{5} = 12x^5$

$$\textcircled{m = 60}$$

check

$$\frac{60}{5} = 12 \checkmark$$

Name _____

Form I Algebra Summer Work
July Problems

Operations with Fractions

Write each answer as a simplified fraction.

1. $\frac{11}{15} + \frac{2.5}{3.5} =$

$$\frac{11}{15} + \frac{10}{15} = \frac{21}{15} = \frac{6}{5} = \frac{2}{5}$$

2. $\frac{7.5}{9.5} - \frac{2.3}{15.3} =$

$$\frac{35}{45} - \frac{6}{45} = \frac{29}{45}$$

3. $\frac{2.2}{3.5} \times \frac{3}{16} =$

$$\frac{22}{35} \times \frac{3}{16} = \frac{6}{7}$$

4. $\frac{6}{25} \div \frac{7}{10} =$

$$\frac{6}{25} \times \frac{10}{7} = \frac{12}{35}$$

5. $\frac{5.2}{11.2} + \frac{1}{2} - \frac{3}{22} =$

$$\frac{10}{22} + \frac{11}{22} - \frac{3}{22} = \frac{21}{22} - \frac{3}{22} = \frac{18}{22} = \frac{9}{11}$$

6. $\frac{5}{12} \div \frac{25}{28} \times \frac{1}{14} =$

$$\frac{5}{12} \times \frac{28}{25} \times \frac{1}{14} = \frac{1}{30}$$

Integer Operations

Simplify.

7. $22 + (-10) = 12$

8. $-31 + (-7) = -38$

9. $(-19) - 30 = -49$

10. $(-15) - (-9) = -6$
 $-15 + 9$

$$11. 13 - 8 + 20 - (-24) =$$

$$5 + 20 + 24$$

$$25 + 24$$

$$\textcircled{49}$$

$$13. -7(-11) = 77$$

$$15. (-6)(-5)(-7) =$$

$$30(-7)$$

$$\textcircled{-210}$$

$$12. 12 + (-39) - 11 - (-25) =$$

$$-27 - 11 + 25$$

$$-38 + 25$$

$$\textcircled{-13}$$

$$14. -8 \cdot (-7) = 56$$

$$16. (-4)(-4)(7) =$$

$$16(7)$$

$$\textcircled{112}$$

$$17. -108 \div (-12) = 9$$

$$18. \frac{-30}{10} = -3$$

Order of Operations

Use the Order of Operations to simplify each expression. Show your work clearly.

$$19. (15 \times 2) \div 10 + 8 =$$

$$30 \div 10 + 8$$

$$3 + 8$$

$$\textcircled{11}$$

$$20. (4 - 5)^2 + 10 =$$

$$(-1)^2 + 10$$

$$1 + 10$$

$$\textcircled{11}$$

$$21. (15 \cdot 2) \div (1^3 + 4)$$

$$30 \div (1 + 4)$$

$$30 \div 5$$

$$\textcircled{6}$$

Evaluating Expressions

Evaluate each expression for the given variables.

22. $y - (z + y) \div 5$; for $y = 15$ and $z = 10$

$$15 - (10 + 15) \div 5$$

$$15 - 25 \div 5$$

$$15 - 5$$

$$(10)$$

23. $z \div 6 + yz$, for $y = 6$, and $z = 12$

$$12 \div 6 + 6 \cdot 12$$

$$2 + 72$$

$$(74)$$

Combining Like Terms

Simplify each expression by combining like terms.

24. $5x + 8x$

$$13x$$

25. $-n - 8 + 12n + 10$

$$11n + 2$$

26. $-x + 13 - 14 + 13x$

$$12x - 1$$

27. $1 + 11x - 4 - 12x$

$$-x - 3$$

Distributive Property

Simplify each expression using the Distributive Property.

28. $2(13n + 6)$

$$26n + 12$$

29. $-7(7v + 11)$

$$-49v - 77$$

$$30. -13(v - 2)$$

$$-13v + 26$$

$$31. -14(1 - 2x)$$

$$-14 + 28x$$

Solving Equations

Solve each equation and show how you keep it balanced. Check your work.

$$32. \frac{2p}{2} = \frac{20}{2}$$

$$p = 10$$

check

$$2(10) = 20 \checkmark$$

$$33. 9 + n = 50$$

$$\begin{array}{r} -9 \quad +9 \\ \hline n = 41 \end{array}$$

check

$$9 + 41 = 50 \checkmark$$

$$34. \frac{5}{9} = x - \frac{5}{9}$$

$$\begin{array}{r} \frac{5}{9} = x - \frac{15}{9} \\ + \frac{15}{9} \quad | \quad + \frac{15}{9} \\ \hline \end{array}$$

$$\frac{20}{9} = x$$

$$2\frac{2}{9} = x$$

check

$$\frac{20}{9} - \frac{15}{9}$$

$$\frac{5}{9} \checkmark$$

$$35. \frac{y}{7} = 9 \cdot 7$$

$$y = 63$$

check

$$\frac{63}{7} = 9 \checkmark$$

Name _____

Form I Algebra Summer Work
August Problems

Operations with Fractions

Write each answer as a simplified fraction.

1. $\frac{21}{25} + \frac{3}{10} =$

$$\frac{42}{50} + \frac{15}{50}$$

$$\frac{57}{50} = 1\frac{7}{50}$$

3. $\frac{2}{9} \times \frac{2}{10} = \frac{4}{9}$

2. $\frac{11}{12} - \frac{3}{8} =$

$$\frac{22}{24} - \frac{9}{24} = \frac{13}{24}$$

4. $\frac{3}{20} \div \frac{6}{25} =$

$$\frac{13}{420} \times \frac{255}{162} = \frac{5}{8}$$

5. $\frac{2}{7} + \frac{5}{4} - \frac{9}{14} =$

$$\frac{8}{28} + \frac{35}{28} - \frac{18}{28}$$

$$\frac{25}{28}$$

6. $\frac{7}{9} \times \frac{24}{25} \div \frac{4}{15} =$

$$\frac{7}{189} \times \frac{162}{25} \times \frac{15}{41} = \frac{14}{5} = 2\frac{4}{5}$$

Integer Operations

Simplify.

7. $33 + (-16) = 17$

8. $-24 + (-8) = -32$

9. $(-41) - 50 = -91$

10. $(-9) - (-9) = 0$
 $-9 + 9$

$$11. 24 - 16 + 30 - (-7) =$$

$$\begin{array}{l} 8 + 30 + 7 \\ 38 + 7 \\ \textcircled{45} \end{array}$$

$$12. 5 + (-12) - 32 - (-18) =$$

$$\begin{array}{l} -7 - 32 + 18 \\ -39 + 18 \\ \textcircled{-21} \end{array}$$

$$13. -5(-12) = 60$$

$$14. -4 \cdot (-12) = 48$$

$$15. (-8)(-2)(-4) = -64$$

$$16. (-5)(-10)(100) = 5,000$$

$$17. -132 \div (-12) = 11$$

$$18. \frac{42}{-7} = -6$$

Order of Operations

Use the Order of Operations to simplify each expression. Show your work clearly.

$$19. 15 - 8 - (9 - 13) =$$

$$\begin{array}{l} 7 - (-4) \\ \textcircled{11} \end{array}$$

$$20. 1 + 8 + 11 \times (-6) =$$

$$\begin{array}{l} 9 + (-66) \\ \textcircled{-57} \end{array}$$

$$21. (6 - 4 + 2 \cdot 6) \div (-2)$$

$$\begin{array}{l} (2 + 12) \div (-2) \\ 14 \div (-2) \\ \textcircled{-7} \end{array}$$

Evaluating Expressions

Evaluate each expression for the given variables.

22. $x + (x + z)^2$; for $x = -3$ and $z = 2$

$$-3 + (-3 + 2)^2$$

$$-3 + (-1)^2$$

$$-3 + 1$$

$$\boxed{-2}$$

23. $k - k + kh$, for $k = 9$, and $h = 9$

$$9 - 9 + 9(9)$$

$$0 + 81$$

$$\boxed{81}$$

Combining Like Terms

Simplify each expression by combining like terms.

24. $4x + 4 - 2$

$$4x + 2$$

25. $m - 5 - 4 + 4m$

$$5m - 9$$

26. $-6p + 12 - 1 + 2p$

$$-4p + 11$$

27. $12w + 12w - 4 - 2w$

$$22w - 4$$

Distributive Property

Simplify each expression using the Distributive Property.

28. $8(8v + 7)$

$$64v + 56$$

29. $-4(12n + 11)$

$$-48n - 44$$

$$30. -6(3y - 4)$$

$$-18y + 24$$

$$31. 5(-11 - 12x)$$

$$-55 - 60x$$

Solving Equations

Solve each equation and show how you keep it balanced. Check your work.

$$32. 8p = 56$$

$$\begin{array}{r} \overline{8} \quad \overline{8} \\ p = 7 \end{array}$$

check

$$8 \cdot 7 = 56 \checkmark$$

$$33. n - 24 = 30$$

$$\begin{array}{r} +24 \quad +24 \\ \hline n = 54 \end{array}$$

check

$$54 - 24 = 30 \checkmark$$

$$34. \frac{7}{10} = x - \frac{3}{4}$$

$$\begin{array}{r} \frac{14}{20} = x - \frac{15}{20} \\ + \frac{15}{20} \quad + \frac{15}{20} \end{array}$$

$$\frac{29}{20} = x$$

$$\boxed{1 \frac{9}{20} = x}$$

check

$$\frac{29}{20} - \frac{15}{20}$$

$$\frac{14}{20} = \frac{7}{10} \checkmark$$

$$35. x \cdot \frac{y}{5} = 10 \times 5$$

$$\boxed{y = 50}$$

check

$$\frac{50}{5} = 10 \checkmark$$