

CP Algebra 1 Summer Assignment 2015

For students entering CP Algebra I in September, including students who are retaking CP Algebra I.

This assignment is to help you keep your math skills over the summer break. The assignment consists of math concepts you were taught so you should make every effort to complete the assignment on your own. **YOU WILL BE TESTED ON THE CONCEPTS WITHIN THE FIRST TWO WEEKS OF SCHOOL.** All answers will be posted during the last week of August but bring your work to school during the first week of school. Your math teacher will review and answer any questions you may have. **Use a calculator only where indicated.**

TUTORIAL HELP SITES: if you have difficulty, the following websites provide tutorials and videos. These correspond to our Algebra I textbook but are “review” concepts. Look at chapters/units 1-5.

1. http://jmap.org/JMAP_INTEGRATED_ALGEBRA_PEARSON_RESOURCES.htm

2. <http://rpd.net/show.php?type=math&cat=224&lvl=High+School>

videos for #2 are in this link: <http://rpd.net/videos-math.html>

additional notes: <http://rpd.net/algebra-lessons.html>

3. <http://www.ixl.com/>

4. <https://www.khanacademy.org/> (videos)

_____ 1. Identify the fraction that is equivalent to $\frac{3}{8}$.

a. $\frac{18}{40}$ b. $\frac{18}{48}$ c. $\frac{15}{48}$ d. $\frac{21}{48}$

_____ 2. Identify the fraction that is equivalent to $\frac{5}{7}$.

a. $\frac{25}{28}$ b. $\frac{20}{35}$ c. $\frac{30}{35}$ d. $\frac{25}{35}$

Short Answer

Find the value of x that completes the statement.

1. $\frac{2}{5} = \frac{8}{x}$

2. $\frac{x}{36} = \frac{10}{6}$

Write the fraction in simplest form.

3. $\frac{14}{24}$

Write as a decimal.

4. $\frac{1}{2}$

5. $4\frac{1}{12}$

Add or subtract. Write each answer in simplest form.

6. $\frac{6}{10} + \frac{9}{10}$

7. $\frac{5}{12} - \frac{3}{12}$

8. $\frac{1}{5} + \frac{2}{12}$

9. $6\frac{1}{3} + 5\frac{5}{6}$

Multiply or divide. Write your answer in simplest form.

10. $\frac{3}{6} \times \frac{7}{10}$

11. $\frac{5}{12} \div \frac{2}{8}$

Write as a percent.

12. 0.63

13. $\frac{1}{5}$

14. Write 50% as a decimal.

What is the simplified form of each expression?

15. $5(14 - 2)^2 \div 2$

16. $\frac{4(20 + 12) \div (4 - 3)}{}$

17. $3^3 \cdot 32 + 12 \div 4$

18. $13\left[6^2 \div (5^2 - 4^2) + 9\right]$

What is the simplified form of each expression?

19. $\frac{1}{3}(21m + 27)$

What is the solution of the equation?

20. $\frac{6}{7}x - 8 = 7$

21. Aimi is making Valentine's Day cards for everyone in her class. She plans to use a whole sheet of paper for each of her 6 closest friends. She will use $\frac{1}{8}$ of a sheet of paper for everyone else in the class. She has 34 sheets of paper. How many of the smaller cards can she make?
22. Hannah wants to buy a \$570 camera. She can save \$50 each week from her paycheck. However, before Hannah can buy the camera, she must give her brother \$80 that she owes him. For how many weeks will Hannah need to save before she can pay back her brother and buy the camera?

What is the solution of the equation?

23. $\frac{b + 6}{5} = 10$

What is the solution of the equation?

24. $-6y + 14 + 4y = 32$

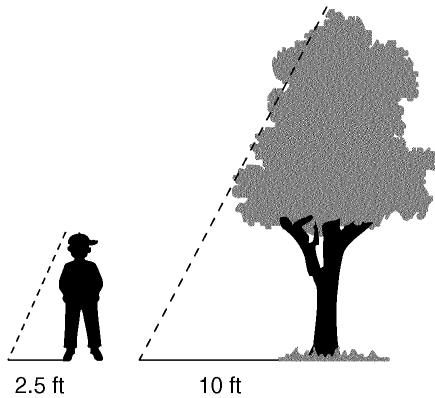
What is the solution of the equation?

25. $4(y + 2) = 32$

What is the solution of the proportion?

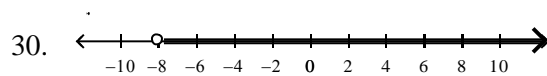
26. $\frac{x - 8}{5} = \frac{2}{4}$

27. A van travels 220 miles on 10 gallons of gas. Find how many gallons the van needs to travel 550 miles.
28. School guidelines require that there must be at least 2 chaperones for every 25 students going on a school trip. How many chaperones must there be for 80 students?
29. A tree casts a shadow 10 ft long. A boy standing next to the tree casts a shadow 2.5 ft long. The triangle shown for the tree and its shadow is similar to the triangle shown for the boy and his shadow. If the boy is 5 ft tall, how tall is the tree?



Drawing not to scale

What inequality represents the graph?



What inequality describes the situation?

31. Let t = the amount Thomas earned. Thomas earned \$49 or more.

What are the solutions of the inequality? Graph the solutions.

32. $x - 3 \leq -12$

What are the solutions of the inequality? Graph the solutions.

33. $n + 4 > -1$

34. Suppose you had d dollars in your bank account. You spent \$12 but have at least \$51 left. How much money did you have initially? Write and solve an inequality that represents this situation.

What are the solutions of the inequality? Graph the solutions.

35. $\frac{x}{5} \geq -2$

What are the solutions of the inequality? Graph and check the solutions.

36. $-\frac{x}{4} \leq 2$

Which is a solution of the inequality?

37. $6(k - 11) > 12$

38. $p + 4 - 2(p - 10) > 0$

CP Algebra 1 Summer Assignment 2015 Answer Section

MULTIPLE CHOICE

1. ANS: B PTS: 1 DIF: L1 REF: 0-4 Simplifying Fractions
OBJ: Simplifying Fractions TOP: Skills Handbook: Simplifying Fractions
KEY: fractions | equivalent fractions
2. ANS: D PTS: 1 DIF: L1 REF: 0-4 Simplifying Fractions
OBJ: Simplifying Fractions TOP: Skills Handbook: Simplifying Fractions
KEY: fractions | equivalent fractions

SHORT ANSWER

1. ANS:
20

PTS: 1 DIF: L2 REF: 0-4 Simplifying Fractions
OBJ: Simplifying Fractions TOP: Skills Handbook: Simplifying Fractions
KEY: proportion
2. ANS:
60

PTS: 1 DIF: L2 REF: 0-4 Simplifying Fractions
OBJ: Simplifying Fractions TOP: Skills Handbook: Simplifying Fractions
KEY: proportion
3. ANS:
 $\frac{7}{12}$

PTS: 1 DIF: L1 REF: 0-4 Simplifying Fractions
OBJ: Simplifying Fractions TOP: Skills Handbook: Simplifying Fractions
KEY: simplest form | fractions | equivalent fractions
4. ANS:
0.5

PTS: 1 DIF: L1 REF: 0-5 Fractions and Decimals
OBJ: Fractions and Decimals TOP: Skills Handbook: Fractions and Decimals
KEY: convert | fractions | decimals
5. ANS:
4.083

PTS: 1 DIF: L1 REF: 0-5 Fractions and Decimals
OBJ: Fractions and Decimals TOP: Skills Handbook: Fractions and Decimals
KEY: convert | mixed fractions | decimals
6. ANS:

$$\frac{1}{2}$$

PTS: 1 DIF: L1 REF: 0-6 Adding and Subtracting Fractions
OBJ: Adding and Subtracting Fractions TOP: Skills Handbook: Adding and Subtracting Fractions
KEY: addition | fractions | like fractions

7. ANS:

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

PTS: 1 DIF: L1 REF: 0-6 Adding and Subtracting Fractions
OBJ: Adding and Subtracting Fractions TOP: Skills Handbook: Adding and Subtracting Fractions
KEY: subtraction | fractions | like fractions

8. ANS:

$$\frac{11}{30}$$

PTS: 1 DIF: L1 REF: 0-6 Adding and Subtracting Fractions
OBJ: Adding and Subtracting Fractions TOP: Skills Handbook: Adding and Subtracting Fractions
KEY: addition | fractions | unlike fractions

9. ANS:

$$12\frac{1}{6}$$

PTS: 1 DIF: L2 REF: 0-6 Adding and Subtracting Fractions
OBJ: Adding and Subtracting Fractions TOP: Skills Handbook: Adding and Subtracting Fractions
KEY: addition | fractions | mixed fractions

10. ANS:

$$\frac{7}{20}$$

PTS: 1 DIF: L1 REF: 0-7 Multiplying and Dividing Fractions
OBJ: Multiplying and Dividing Fractions
TOP: Skills Handbook: Multiplying and Dividing Fractions KEY: multiplication | fractions

11. ANS:

$$1\frac{2}{3}$$

PTS: 1 DIF: L1 REF: 0-7 Multiplying and Dividing Fractions
OBJ: Multiplying and Dividing Fractions
TOP: Skills Handbook: Multiplying and Dividing Fractions KEY: division | fractions

12. ANS:

63%

PTS: 1 DIF: L1 REF: 0-8 Fractions, Decimals, and Percents
OBJ: Fractions, Decimals, and Percents TOP: Skills Handbook: Fractions, Decimals, and Percents
KEY: convert | decimals | percent

13. ANS:

20%

PTS: 1 DIF: L1 REF: 0-8 Fractions, Decimals, and Percents
OBJ: Fractions, Decimals, and Percents TOP: Skills Handbook: Fractions, Decimals, and Percents
KEY: convert | fractions | percent

14. ANS:
0.5

PTS: 1 DIF: L1 REF: 0-8 Fractions, Decimals, and Percents
OBJ: Fractions, Decimals, and Percents TOP: Skills Handbook: Fractions, Decimals, and Percents
KEY: convert | percent | fractions | mixed fractions

15. ANS:
360

PTS: 1 DIF: L3 REF: 1-2 Order of Operations and Evaluating Expressions
OBJ: 1-2.2 To use the order of operations to evaluate expressions
NAT: CC A.SSE.1.a| N.3.a| N.5.e TOP: 1-2 Problem 2 Simplifying a Numerical Expression
KEY: power | exponent | base | simplify | evaluate

16. ANS:
128

PTS: 1 DIF: L3 REF: 1-2 Order of Operations and Evaluating Expressions
OBJ: 1-2.2 To use the order of operations to evaluate expressions
NAT: CC A.SSE.1.a| N.3.a| N.5.e TOP: 1-2 Problem 2 Simplifying a Numerical Expression
KEY: power | exponent | base | simplify | evaluate

17. ANS:
867

PTS: 1 DIF: L3 REF: 1-2 Order of Operations and Evaluating Expressions
OBJ: 1-2.2 To use the order of operations to evaluate expressions
NAT: CC A.SSE.1.a| N.3.a| N.5.e TOP: 1-2 Problem 2 Simplifying a Numerical Expression
KEY: power | exponent | base | simplify | evaluate

18. ANS:
169

PTS: 1 DIF: L4 REF: 1-2 Order of Operations and Evaluating Expressions
OBJ: 1-2.2 To use the order of operations to evaluate expressions
NAT: CC A.SSE.1.a| N.3.a| N.5.e TOP: 1-2 Problem 2 Simplifying a Numerical Expression
KEY: power | exponent | base | simplify | evaluate

19. ANS:
 $7m + 9$

PTS: 1 DIF: L3 REF: 1-7 The Distributive Property
OBJ: 1-7.1 To use the Distributive Property to simplify expressions
NAT: CC A.SSE.1.a| N.1.d| N.3.b| N.3.c| N.3.d| A.3.c
TOP: 1-7 Problem 1 Simplifying Expressions
KEY: Distributive Property | coefficient | term | like terms

20. ANS:
 $17\frac{1}{2}$

PTS: 1 DIF: L3 REF: 2-2 Solving Two-Step Equations
OBJ: 2-2.1 To solve two-step equations in one variable
NAT: CC A.CED.1| CC A.REI.1| CC A.REI.3| A.4.a| A.4.c
TOP: 2-2 Problem 1 Solving a Two-Step Equation
KEY: equation in one variable | isolate | inverse operations

21. ANS:
224 cards

PTS: 1 DIF: L4 REF: 2-2 Solving Two-Step Equations
OBJ: 2-2.1 To solve two-step equations in one variable
NAT: CC A.CED.1| CC A.REI.1| CC A.REI.3| A.4.a| A.4.c
TOP: 2-2 Problem 2 Using an Equation as a Model
KEY: create an equation | isolate | equation in one variable

22. ANS:
13 weeks

PTS: 1 DIF: L4 REF: 2-2 Solving Two-Step Equations
OBJ: 2-2.1 To solve two-step equations in one variable
NAT: CC A.CED.1| CC A.REI.1| CC A.REI.3| A.4.a| A.4.c
TOP: 2-2 Problem 2 Using an Equation as a Model
KEY: create an equation | isolate | equation in one variable

23. ANS:
44

PTS: 1 DIF: L3 REF: 2-2 Solving Two-Step Equations
OBJ: 2-2.1 To solve two-step equations in one variable
NAT: CC A.CED.1| CC A.REI.1| CC A.REI.3| A.4.a| A.4.c
TOP: 2-2 Problem 3 Solving With Two Terms in the Numerator
KEY: equation in one variable | isolate | inverse operations

24. ANS:
-9

PTS: 1 DIF: L3 REF: 2-3 Solving Multi-Step Equations
OBJ: 2-3.1 To solve multi-step equations in one variable
NAT: CC A.CED.1| CC A.REI.1| CC A.REI.3| A.4.a| A.4.c
TOP: 2-3 Problem 1 Combining Like Terms
KEY: like terms | equation in one variable | inverse operations

25. ANS:
6

PTS: 1 DIF: L2 REF: 2-3 Solving Multi-Step Equations
OBJ: 2-3.1 To solve multi-step equations in one variable
NAT: CC A.CED.1| CC A.REI.1| CC A.REI.3| A.4.a| A.4.c
TOP: 2-3 Problem 3 Solving an Equation Using the Distributive Property
KEY: Distributive Property | equation in one variable | inverse operations

26. ANS:
21
2

PTS: 1 DIF: L2 REF: 2-7 Solving Proportions

OBJ: 2-7.1 To solve and apply proportions
NAT: CC N.Q.1| CC A.CED.1| CC A.REI.3| N.3.b| N.3.f| N.4.c
TOP: 2-7 Problem 3 Solving a Multi-Step Proportion
KEY: proportion | cross products | Cross Products Property

27. ANS:
25 gallons of gas

PTS: 1 DIF: L2 REF: 2-7 Solving Proportions
OBJ: 2-7.1 To solve and apply proportions
NAT: CC N.Q.1| CC A.CED.1| CC A.REI.3| N.3.b| N.3.f| N.4.c
TOP: 2-7 Problem 4 Using a Proportion to Solve a Problem
KEY: create an equation | cross products | Cross Products Property

28. ANS:
7 chaperones

PTS: 1 DIF: L3 REF: 2-7 Solving Proportions
OBJ: 2-7.1 To solve and apply proportions
NAT: CC N.Q.1| CC A.CED.1| CC A.REI.3| N.3.b| N.3.f| N.4.c
TOP: 2-7 Problem 4 Using a Proportion to Solve a Problem
KEY: create an equation | cross products | Cross Products Property

29. ANS:
20 ft

PTS: 1 DIF: L3 REF: 2-8 Proportions and Similar Figures
OBJ: 2-8.2 To use similar figures when measuring indirectly
NAT: CC A.CED.1| CC A.REI.3| N.3.b| N.3.f| N.4.c| M.1.b| M.2.f
TOP: 2-8 Problem 2 Applying Similarity KEY: create an equation | similar figures

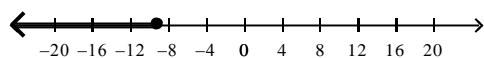
30. ANS:
 $x > -8$

PTS: 1 DIF: L2 REF: 3-1 Inequalities and Their Graphs
OBJ: 3-1.1 To write, graph, and identify solutions of inequalities
NAT: CC A.REI.3 TOP: 3-1 Problem 4 Writing an Inequality From a Graph
KEY: solution of an inequality

31. ANS:
 $t \geq 49$

PTS: 1 DIF: L3 REF: 3-1 Inequalities and Their Graphs
OBJ: 3-1.1 To write, graph, and identify solutions of inequalities
NAT: CC A.REI.3 TOP: 3-1 Problem 5 Writing Real-World Inequalities
KEY: create inequalities in one variable | solution of an inequality

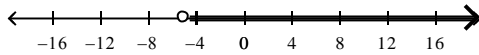
32. ANS:
 $x \leq -9$



PTS: 1 DIF: L3 REF: 3-2 Solving Inequalities Using Addition or Subtraction
OBJ: 3-2.1 To use addition or subtraction to solve inequalities NAT: CC A.CED.1| CC A.REI.3
TOP: 3-2 Problem 1 Using the Addition Property of Inequality KEY: equivalent inequalities

33. ANS:

$$n > -5$$



PTS: 1 DIF: L3 REF: 3-2 Solving Inequalities Using Addition or Subtraction
OBJ: 3-2.1 To use addition or subtraction to solve inequalities NAT: CC A.CED.1| CC A.REI.3
TOP: 3-2 Problem 3 Using the Subtraction Property of Inequality
KEY: create inequalities in one variable | problem solving

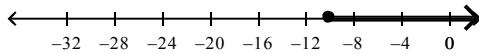
34. ANS:

$$d - 12 \geq 51; d \geq 63$$

PTS: 1 DIF: L3 REF: 3-2 Solving Inequalities Using Addition or Subtraction
OBJ: 3-2.1 To use addition or subtraction to solve inequalities NAT: CC A.CED.1| CC A.REI.3
TOP: 3-2 Problem 4 Writing and Solving an Inequality
KEY: create inequalities in one variable | problem solving

35. ANS:

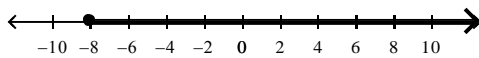
$$x \geq -10$$



PTS: 1 DIF: L3 REF: 3-3 Solving Inequalities Using Multiplication or Division
OBJ: 3-3.1 To use multiplication or division to solve inequalities
NAT: CC N.Q.2| CC A.CED.1| CC A.REI.3
TOP: 3-3 Problem 1 Multiplying by a Positive Number

36. ANS:

$$x \geq -8$$



PTS: 1 DIF: L3 REF: 3-3 Solving Inequalities Using Multiplication or Division
OBJ: 3-3.1 To use multiplication or division to solve inequalities
NAT: CC N.Q.2| CC A.CED.1| CC A.REI.3
TOP: 3-3 Problem 2 Multiplying by a Negative Number

37. ANS:

15

PTS: 1 DIF: L2 REF: 3-4 Solving Multi-Step Inequalities
OBJ: 3-4.1 To solve multi-step inequalities NAT: CC A.CED.1| CC A.REI.3
TOP: 3-4 Problem 3 Using the Distributive Property

38. ANS:

22

PTS: 1 DIF: L3 REF: 3-4 Solving Multi-Step Inequalities
OBJ: 3-4.1 To solve multi-step inequalities NAT: CC A.CED.1| CC A.REI.3
TOP: 3-4 Problem 3 Using the Distributive Property