

Welcome to Algebra!

We are going to have a great year! I am excited to spend time together in class, and feel blessed to be your teacher. The following independent practice is NOT a summer assignment. The work will not be collected, however, it is highly encouraged to review and practice before the school year begins. The second week of this school year, there will be a test covering topics from chapter 1. Shortly after, you will be tested on chapter 2. The first two chapters are several review skills from Pre-Algebra (7th grade math). We will use that test as another piece of data to ensure you are properly placed in the best course for your ability. You may use any resource available to you to help you review the material. Some of these resources may include: online tutorial videos, a parent, an older sibling, or books from the local library. Again, I am thrilled to have you in class and look forward to the year.

Enjoy your summer!

Mrs. Sivertson ☺

dsivertson@linfield.com

Vocabulary you should be familiar with prior to class:

Expression, equation, simplify, solve, variable, solution, order of operations, distributive property, commutative property, associative property, absolute value, base, exponent, square root, evaluate, opposites, reciprocal, like terms, coefficient, constant

IXL skills: Your IXL account will be active throughout the summer. You can work on any of the skills you want to review or get a head start on for algebra class.

Cumulative review test from chapters 1 and 2 (see below)

Choose the best answer.

- Which of the following does NOT describe $x - 4$?
A the difference of x and 4
B 4 less than x
C x less than 4
D x decreased by 4
- Evaluate $10 \div b$ for the replacement set $\{2, 5, 10\}$.
A $\left\{\frac{1}{5}, \frac{1}{2}, 1\right\}$
B $\{5, 2, 1\}$
C $\{8, 5, 0\}$
D $\{20, 50, 100\}$
- Add $-14 + (-4)$.
A -18 C 10
B -10 D 18
- Evaluate $x - 15$ for $x = -2$.
A -17
B -13
C 13
D 17
- Divide $\frac{1}{4} \div -\frac{2}{5}$.
A $-\frac{5}{8}$
B $-\frac{1}{10}$
C $\frac{1}{10}$
D $\frac{5}{8}$
- Multiply $-\frac{1}{3} \times -\frac{3}{5}$.
A $-\frac{5}{9}$ C $\frac{1}{5}$
B $-\frac{1}{5}$ D $\frac{5}{9}$

- Evaluate $\frac{x}{6}$ for $x = -3$.
A -2 C $\frac{1}{2}$
B $-\frac{1}{2}$ D 2
- Evaluate 2^3 .
A 4 C 6
B 5 D 8
- Evaluate $(-10)^2$.
A -100 C 20
B -20 D 100
- Evaluate $-\left(\frac{2}{3}\right)^4$.
A $-\frac{8}{12}$
B $-\frac{16}{81}$
C $\frac{16}{81}$
D $\frac{8}{12}$
- Find $\sqrt{16}$.
A 4 C 32
B 8 D 256
- Find $-\sqrt{144}$.
A -72 C 12
B -12 D 72
- Find $\sqrt[3]{-216}$.
A -36 C 6
B -6 D 36
- Kayla purchased a square picnic blanket that covers 28 square feet. Estimate the length of one side of the blanket to the nearest tenth of a foot.
A 5.0 C 5.2
B 5.1 D 5.3

15. Which of the following is an irrational number?
- A -5 C $\frac{2}{5}$
B 0 D $\sqrt{2}$
16. Name the property that is illustrated by the equation $2 + (8 + x) = (2 + 8) + x$.
- A Associative Property of Addition
B Associative Property of Multiplication
C Commutative Property of Addition
D Commutative Property of Multiplication
17. Which pair of expressions is NOT a counterexample that disproves the statement "The Associative Property is true for division"?
- A $1 \div (2 \div 5)$ and $(1 \div 2) \div 5$
B $10 \div (2 \div 1)$ and $(10 \div 2) \div 1$
C $10 \div (2 \div 5)$ and $(10 \div 2) \div 5$
D $10 \div (10 \div 2)$ and $(10 \div 10) \div 2$
18. Which expression is equivalent to the product $15(103)$?
- A $5(100) + 10(3)$
B $10(100) + 5(3)$
C $15(100) + 15(3)$
D $20(100) - 5(3)$
19. The set of real numbers are NOT closed under which operation?
- A addition C multiplication
B division D subtraction
20. Simplify $2^3 - 4 + 6 \div 2$.
- A 3 C 5
B 4 D 7

21. Evaluate $-4(3 + x)^2$ for $x = -2$.
- A -100 C 8
B -4 D 16
22. Which expression CANNOT be simplified further?
- A $3x + 4x$
B $2x^2 + x^2$
C $5a + 5b$
D $4a^3 - 2a^3$
23. Simplify $-2(t + 7) - 4t$.
- A $-6t + 7$
B $-6t - 14$
C $-6t + 14$
D $6t - 14$
24. Justify the move from Step 1 to Step 2 below.
- Step 1: $-3(4x + 2)$
Step 2: $-12x - 6$
- A Commutative Property
B Associative Property
C Distributive Property
D Combine like terms

25. Solve $2 + b = -1$.
 A -3 C 1
 B -1 D 3
26. Solve $\frac{2}{3} = y - \frac{1}{3}$.
 A -1
 B $-\frac{1}{3}$
 C $\frac{1}{3}$
 D 1
27. Solve $\frac{m}{3} = 9$.
 A 3 C 12
 B 6 D 27
28. Solve $14 = -2y$.
 A -28 C 7
 B -7 D 28
29. Solve $\frac{3}{4}x = 2$.
 A $\frac{3}{8}$ C $\frac{3}{2}$
 B $\frac{2}{3}$ D $\frac{8}{3}$
30. Solve $-4.5 + y = 9.5$.
 A -14 C 5
 B -5 D 14
31. If the height of the Petronas Twin Towers in Malaysia were increased by 187 feet, then they would be as tall as the 1670 foot Taipei 101 Tower in Taiwan. Which equation can be used to find the height, h , of the Petronas Twin Towers in feet?
 A $h - 1670 = 187$
 B $h - 187 = 1670$
 C $h + 187 = 1670$
 D $h + 1670 = 187$
32. Solve $-2x + 4 = -10$.
 A -7 C 3
 B -3 D 7
33. Solve $\frac{n}{3} + 1 = \frac{2}{5}$.
 A $-\frac{9}{5}$ C 1
 B $-\frac{3}{2}$ D $\frac{21}{5}$
34. An engraver charges \$5.00 plus \$0.15 per letter to engrave a sports trophy. The engraving on a baseball trophy cost \$23.00. How many letters were on the baseball trophy?
 A 120 letters
 B 153 letters
 C 187 letters
 D 270 letters
35. Solve $-5t - 3 + 2t = 24$.
 F -9 H 7
 G -7 J 9
36. Solve $6(3 - 2x) + 8x = 9$.
 A $-\frac{3}{2}$ C $\frac{9}{20}$
 B $-\frac{1}{4}$ D $\frac{9}{4}$
37. Solve $5x = -2x + 1$.
 A $-\frac{1}{3}$ C $\frac{1}{7}$
 B $-\frac{1}{7}$ D $\frac{1}{3}$
38. Solve $10x + 9 = 3 + 2(x - 5)$.
 A -2
 B $-\frac{11}{8}$
 C $-\frac{4}{3}$
 D $\frac{1}{4}$

39. A decorator charges \$40 for an initial consultation, then \$80 per hour. Another decorator just charges \$90 per hour. How long is a job for which the two decorators charge the same price?
- A 1 hour
B 2 hours
C 4 hours
D 8 hours
40. Solve $2k + 6 - 3k = 6 - k$.
- A no solutions C 6
B 0 D all real numbers
41. The ratio of children to adults at a family reunion is 4:3. There are 48 adults. How many children are there?
- A 36 C 84
B 64 D 112
42. A flight from San Francisco to New York covers 2575 miles in 7 hours. Find the unit rate. Round your answer to the nearest hundredth.
- A 357.14 mi/h C 368.57 mi/h
B 367.86 mi/h D 371.43 mi/h
43. Solve $\frac{6}{x+7} = \frac{2}{5}$.
- A $-\frac{23}{5}$ C $\frac{23}{2}$
B 8 D 22
44. Find 85% of 220.
- A 33
B 187
C 272
D 407
45. A model of a boat is 13.2 inches long. The scale of the model to the original is 2 in:5 ft. How long is the boat?
- A 5 ft C 33 ft
B 6.6 ft D 132 ft