

Dear incoming 8th grade ALGEBRA student,

CONGRATULATIONS! Due to your academic excellence in advanced 7th grade Math, you have earned a fantastic opportunity. You have been recommended to take Algebra 1 Honors, a high school class, as an 8th grader! In order to be successful, it is recommended that you continue building your math skills throughout the summer.

Attached you will find FOUR reviews which cover the first four chapters of the Course 3, Pre-Algebra book. It is recommended that you complete this course preparation packet using your current math knowledge (if you know them), or by using Khan Academy if you need some assistance. With a total of 55 questions, it amounts to less than one problem per day.

If you choose to use Khan Academy, please work on 8th grade Math Skills (not Pre-Algebra). You are able to access Khan Academy from any device through your district account from Launchpad. With Khan Academy, you will be able to watch brief videos and answer practice questions.

When you join us in the fall, you will be assessed on these four chapters after you have checked your reviews and are satisfied that you are ready to test. You *will* have an opportunity to watch teacher-made lesson videos and to check your work before being tested, but we will need to start Algebra content very quickly.

If you have any questions over the summer, please feel free to start an email to *all* of us, and the first one that reads it will reply. We are looking forward to working with you next year!

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REVIEW for test 1.1-1.10 **NO Calculator****Omit 10-14**

1. What is the fraction $\frac{2}{11}$ written as a decimal? Show your division. 1. _____

2. What is the value of the expression $(-2)^6$? 2. _____

3. What is $0.\overline{27}$ as a fraction in simplest form? 3. _____

4. Using exponents, what is the simplified form of the expression $\frac{8^{12}}{8^3}$? 4. _____

5. Using exponents, what is the simplified form of the expression $5^9 \cdot 5^2$? 5. _____

6. If the length of one side of a square is 12^2 inches, what is the area of the square in square inches? Express your answer using exponents. 6. _____

7. What is the simplified form of the expression $(3x^4)^3$? 7. _____

8. How is the expression 4^{-9} written using a positive exponent? 8. _____

9. How is the fraction $\frac{1}{8^3}$ written using a negative exponent? 9. _____

10. What is 4.11×10^5 written in standard form? 10. _____

11. What is 871,000 written in scientific notation?

11. _____

12. What is the value of the expression below written in scientific notation?

$$(3.4 \times 10^5)(2 \times 10^4)$$

12. _____

13. What is the value of the expression below written in scientific notation?

$$(8.1 \times 10^7) + (5.4 \times 10^6)$$

13. _____

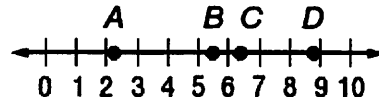
14. How many times bigger is 3.6×10^2 than 9×10^1 ?

14. _____

15. What are the solutions of the equation $y^2 = 81$?

15. _____

16. Which point is closest to $\sqrt{79}$ on the number line?



16. _____

17. To which set of numbers do the following numbers belong: -7 , -7.1 , $\sqrt{7}$?

F. rational G. integer H. irrational I. whole

17. _____

18. Which set of numbers is ordered from greatest to least?

A. $\left\{2.82, \sqrt{8}, \sqrt{11}, 3\frac{1}{2}\right\}$

C. $\{-\sqrt{16}, -\sqrt{17}, -\sqrt{18}, -\sqrt{19}\}$

B. $\left\{\sqrt{5}, -\sqrt{6}, 2\frac{1}{2}, -3\right\}$

D. $\{\sqrt{10}, 4, \sqrt{4}, 1.5\}$

18. _____

19. What is the value of $\sqrt[3]{512}$?

19. _____

20. What is the value of $\sqrt[3]{64}$?

20. _____

Chapter 2 Review (#1) Show all your work!!! NO work, no credit!

Translate each sentence into an equation.

- 12 is 3 more than twice a number.
- The difference between two-thirds of a number and 4 is -92 .
- Negative 6 times the sum of a number and 4 is 2.

Solve and **CHECK** each equation.

4. $-2.17 = 0.35r$

5. $2\frac{2}{5}w = 21\frac{3}{5}$

6. $-25 = \frac{1}{3}n - 10$

7. $4 - 5y = -16$

8. $-17 = -7c + 4$

9. $\frac{x+5}{4} = -4$

10. Elyse wants to buy a softball glove that costs \$46.50. She has \$15 and plans to save \$5.25 each week. How many weeks will it take her to save the money? A) Define the variable, B) write an equation and C) solve.

Solve and CHECK each equation.

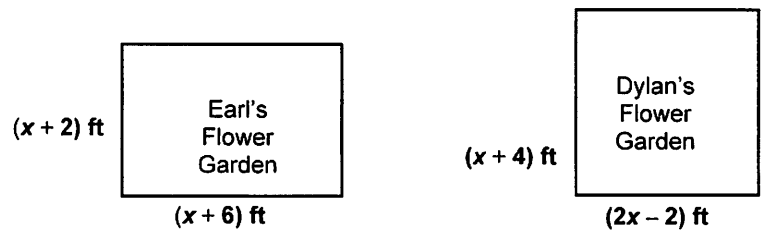
11. $-5x = -40 + 3x$

12. $-7b - 3 = -3b + 5$

13. $2(v - 4) - 10 = -2(-1 + 4v)$

14. $-2(y - 4) = 20 - 2y - 12$

15. Mabel scored 19 points more on her math test than Nancy. Phoebe scored 10 points less on her math test than Nancy. If Phoebe scored 23 points, how many points did Mabel score?



16. The figures above show sketches of Earl's and Dylan's flower gardens. If the perimeter of each of their gardens is the same, what is the length and width of Earl's garden?

Review #3 for Chapter 3 Test (1B)

1. What is the constant rate of change between x and y in the table below?

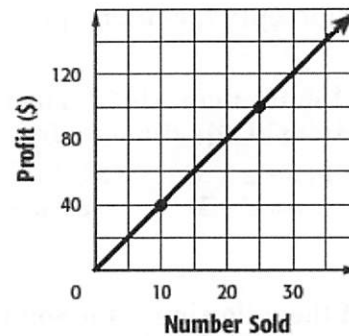
x	-5	-1	3	7
y	9	6	3	0

1. _____

2. What is the slope of the line that passes through the points $C(-2, 4)$ and $D(-1, 8)$?

2. _____

3. The profits from selling T-shirts at store A are shown in the graph. The profit y for selling x T-shirts at store B is represented by the equation $y = 4.25x$. Which of the following statements is true?



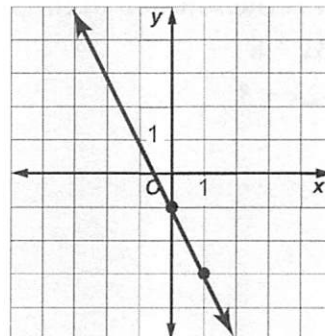
- F. Store A made a greater profit per T-shirt.
 G. Store B made a greater profit per T-shirt.
 H. Store A made a profit of \$4.25 per T-shirt.
 I. Store B made a profit of \$4 per T-shirt.

3. _____

4. What are the slope and y -intercept for the graph of $y - 4x = 7$?

4. _____

5. What is the equation in slope-intercept form for the graph of the line shown?



5. _____

6. Lauren is having a party at a game center. The center charges \$125 plus \$15 per guest. The total cost of the party y can be represented by the equation $y = 15x + 125$.

What does the y -intercept represent? _____

What does the slope represent? _____

- A. the number of guests
- B. the cost to rent the game center
- C. the cost per guest
- D. Lauren's age

7. Which equation passes through (1, 2) and has a slope of 7? Show your work!

- F. $y = 7x - 13$
- G. $y = 7x - 5$
- H. $y = 7x + 5$
- I. $y = 7x + 13$

7. _____

8. What are the x - and y -intercepts for the graph of $3x - 7y = 21$?

- A. x -intercept: -7 , y -intercept: 3
- B. x -intercept: -7 , y -intercept: -3
- C. x -intercept: 7 , y -intercept: -3
- D. x -intercept: 7 , y -intercept: 3

8. _____

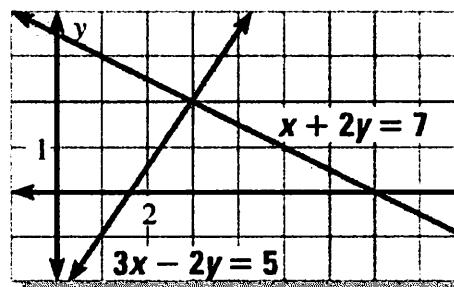
9. Cole has \$3 more than Alicia. Their combined money totals \$55. Which system of equations represents this situation?

- F. $c + a = 55$
 $a + c = 3$
- G. $c + a = 55$
 $c - a = 3$
- H. $c - a = 55$
 $c + a = 3$
- I. $c - a = 55$
 $c - a = 3$

9. _____

10. Which of the following is the solution of the system of equations shown?

- A. (2, 3)
- B. (2, 2)
- C. (3, 2)
- D. (3, -2)



10. _____

11. What is the solution of the system of equations?

$$y = 3x + 8$$

$$y = -2x + 3$$

11. _____

Chp 4 REVIEW #1 (2A)

1. Which ordered pair is *not* a point on the graph of $y = \frac{1}{2}x - 7$?

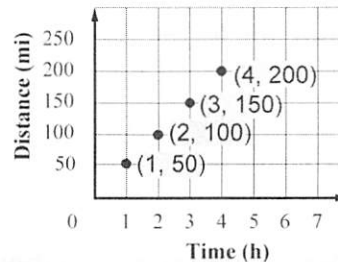
- A. $(1, -6\frac{1}{2})$ B. $(-2, -8)$ C. $(0, -7)$ D. $(2, 8)$

2. What is $f(-2)$ if $f(x) = \frac{1}{2}x$?

- F. -2 G. -1 H. 0 I. 1

3. The graph at the right shows

Jeremy's distance from home each hour he is on a car trip. How many miles will he be from home after 10 hours?



- A. 350 miles C. 500 miles
B. 400 miles D. 550 miles

4. Which table represents a linear function?

F.

x	5	3	1	-1
y	6	8	10	12

H.

x	-2	0	2	4
y	0	1	3	6

G.

x	-3	-1	1	3
y	1	4	9	16

I.

x	7	4	1	-2
y	-1	-3	-6	-9

5. Juana's monthly cost of sending text messages can be represented by the function $y = 0.05x$, where y represents the total cost and x represents the number of text messages. The table shows Tanya's monthly cost of sending text messages. Which statement is *not* true?

Messages	Cost (\$)
20	10
30	11
40	12
50	13

- A. Tanya's initial cost is greater than Juana's initial cost.
B. Tanya pays more per text than Juana.
C. Juana pays \$7.50 for sending 150 text messages.
D. Tanya pays \$20 for sending 150 text messages.

6. Which of the following represents a nonlinear function?

- F. $y = 5x + 7$ G. $y = x^2$ H. $y = -2x$ I. $y = x$

7. Nate has a certain number of songs on his MP3 player. Each week, he plans to add 2 more songs. After 5 weeks, he had 25 songs on his MP3 player. Which statement is true?

- A. Nate adds 5 songs on his MP3 player per week.
- B. Nate adds 10 songs on his MP3 player per week.
- C. The initial number of songs on Nate's MP3 player is 15.
- D. The initial number of songs on Nate's MP3 player is 2.

8. State the domain and range for the following relation. $\{(-4, 4), (1, 2), (0, 3), (3, 2)\}$

Domain _____ Range _____

9. Complete the function table for $f(x) = -2x + 1$.

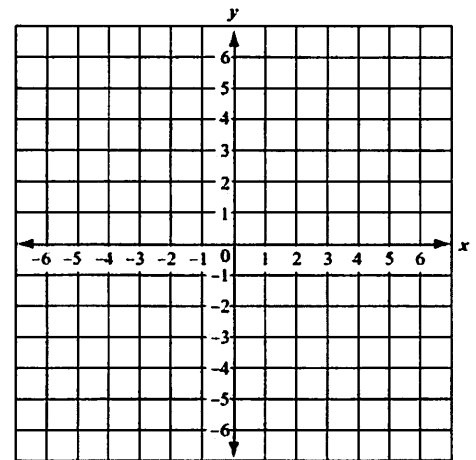
x	$f(x)$
-2	
0	
1	
2	

For Exercises 10 and 11, consider the following situation: The grocery store sells cantaloupes for \$4.50 per pound.

10. Write a function to represent the situation.

11. Is the function continuous or discrete? Explain.

12. Graph $y = -2/3x - 2$.
Use a table or slope-intercept form.



13. The value of a painting has increased steadily over time.
Sketch a qualitative graph to represent this situation.

