

# Summer Assignment for Students Going Into 6th & 7th Grade Algebra 1 Part 1

## Directions:

- ☐ Set up Khan Academy to be able to access helpful videos for your summer homework
  - ☐ Go to [khanacademy.org](https://khanacademy.org) and log in using your JBHA email (if you don't yet have one, use your personal email address).
  - ☐ Go to "Teachers" and enter the code **WKQ5F8H7** to add "Algebra 1 Part 1 - Summer 2021" to your courses.
  - ☐ You will be added to the course shortly. Once you have been added to the course by your teacher, then you should see a list of recommended videos that match the topics in this packet.
    - ☐ These videos are **not** required. They are optional to provide additional support.
- ☐ Complete this packet one topic at a time following the directions below:
  - ☐ Complete all problems in the section, showing all of your work. If there is no work to show, write a sentence or two explaining your answer. **You may not use a calculator on this assignment. Only questions with work and/or explanations will be counted as complete.**
  - ☐ Write your final answer/solution on the chart on the next page.
  - ☐ Check your answers using the answer key on the last page of this packet.
    - ☐ If a question is wrong, that's okay! Check your work for any mistakes and try again :).
    - ☐ If multiple questions are wrong or you don't understand how to arrive at the correct answer, it's probably time to get extra help (see below).
- ☐ If you need extra help you should:
  - ☐ Follow the directions on the chart to the corresponding video on Khan Academy. All of the videos in the chart are "assigned" to you in your Khan Academy class. No googling required :)
  - ☐ Please make sure to use the link on your Khan Academy class so we have a record of which topics may need to be reviewed upon returning to school in September.
- ☐ Bring this packet with you on the first day of school.
  - ☐ While we will be looking at the chart to see trends across the class, your grade will be based on **completion** not correct answers.
  - ☐ Please draw a ☆ next to any topic you would like your teacher to review with you or the whole class.

**Name:** \_\_\_\_\_

**Solution/Reflection Chart**

<b>Topic</b>	<b>Question</b>	<b>My Answer</b>	<b>Correct?</b>	<b>Khan Academy Video(s)</b>
Place Value	<b>1</b>			<b>Place Value (3 Videos)</b>
	<b>2</b>			<b>Place Value with Decimals</b>
	<b>3</b>			
	<b>4</b>			
Comparing and Ordering Numbers	<b>5</b>			<b>Comparing Fractions (2 Videos)</b>
	<b>6</b>			<b>Comparing Decimals</b>
	<b>7</b>			
	<b>8</b>			<b>Comparing Negative Numbers (3 Videos)</b>
	<b>9</b>			
	<b>10</b>			
	<b>11</b>			
	<b>12</b>			
	<b>13</b>			
Fraction Arithmetic	<b>14</b>			<b>Adding/Subtracting Fractions (12 Videos)</b>
	<b>15</b>			
	<b>16</b>			<b>Multiplying/Dividing Fractions (13 Videos)</b>
	<b>17</b>			
	<b>18</b>			
	<b>19</b>			
	<b>20</b>			
	<b>21</b>			
	<b>22</b>			
	<b>23</b>			
	<b>24</b>			
	<b>25</b>			

Converting Between Fractions, Decimals, and Percentages	<b>26</b>			<b>Converting Between Fractions, Decimals and Percentages (5 Videos)</b>
	<b>27</b>			
	<b>28</b>			
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	<b>41</b>			
	<b>42</b>			
	<b>43</b>			
Percentages Problem Solving	<b>44</b>			<b>Percent Word Problems (9 Videos)</b>
	<b>45</b>			
	<b>46</b>			
	<b>47</b>			
	<b>48</b>			
Integer Arithmetic	<b>49</b>			<b>Adding/Subtracting Integers (5 Videos)</b>
	<b>50</b>			
	<b>51</b>			<b>Multiplying/Dividing Integers (4 Videos)</b>
	<b>52</b>			

Integer Arithmetic Cont.	<b>53</b>			
	<b>54</b>			
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	<b>61</b>			
	<b>62</b>			
	<b>63</b>			
	<b>64</b>			
Data Analysis	<b>65</b>			<b>Mean/Median/Mode (6 Videos)</b>
	<b>66</b>			
Problem Solving	<b>67</b>			<<in various videos>>
	<b>68</b>			
	<b>69</b>			
	<b>70</b>			
Solving One-Step Equations	<b>71</b>			<b>One-Step Equations (10 Videos)</b>
	<b>72</b>			
	<b>73</b>			
	<b>74</b>			
	<b>75</b>			

	<b>76</b>			
	<b>77</b>			
Evaluating Expressions	<b>78</b>			<b>Evaluating Expressions (3 Videos)</b>
	<b>79</b>			
Absolute Value	<b>80</b>			<b>Absolute Value (4 Videos)</b>
	<b>81</b>			
Area & Perimeter	<b>82</b>			<b>Area/Perimeter (7 Videos)</b>
	<b>83</b>			
	<b>84</b>			

**REMINDER:** Please draw a ☆ next to any topic you would like your teacher to review with you or the whole class upon returning to school in the fall

## Topic 1: Place Value

*What is the value of the underlined digit in the following numbers?*

1. 6,665,162

2. 0.09785

*Round the following numbers to the given place value:*

3. 10.065 to the nearest hundredth

4. 837.432 to the nearest whole number

## Topic 2: Comparing and Ordering Numbers

*Fill in the blank with the correct symbol:*

*> or < or =*

5.  $7 \underline{\hspace{1cm}} \frac{15}{2}$

6.  $-8 \underline{\hspace{1cm}} -3$

7.  $9 \underline{\hspace{1cm}} \frac{27}{3}$

8.  $-\frac{1}{2} \underline{\hspace{1cm}} -\frac{3}{4}$

9.  $-1.8 \underline{\hspace{1cm}} -1.3$

10.  $\frac{1}{4} \underline{\hspace{1cm}} 0.25$

*Order the following from least to greatest:*

11. -10, 3, 3.4, -7, 8

12. 0.73, 0.7, 0.45, -0.63, -0.1

13.  $2\frac{2}{3}$ , 2.6, 2.04,  $\frac{5}{2}$ , 2

**Topic 3: Fraction Arithmetic**

*Simplify each expression. Write all answers in simplest form:*

14.  $\frac{1}{3} + \frac{1}{3}$

15.  $\frac{3}{4} + \frac{1}{6}$

16.  $1\frac{1}{4} + \frac{3}{2}$

17.  $\frac{5}{6} - \frac{1}{6}$

18.  $2\frac{1}{2} - \frac{1}{4}$

19.  $\frac{4}{5} - \frac{1}{2}$

20.  $2\frac{1}{3} \cdot \frac{2}{5}$

21.  $\frac{4}{5} \cdot \frac{2}{3}$

22.  $\frac{5}{6} \cdot \frac{2}{3}$

23.  $\frac{1}{2} \div \frac{3}{4}$

24.  $\frac{4}{5} \div \frac{3}{2}$

25.  $1\frac{3}{4} \div \frac{3}{4}$

**Topic 4: Converting Between Decimals, Fractions, and Percentages**

*Convert the following fractions to decimals. Round to the nearest hundredth:*

26.  $\frac{4}{5}$

27.  $\frac{3}{7}$

28.  $\frac{5}{8}$

*Convert the following decimals to fractions:*

29. 0.125

30.  $0.\overline{3}$

31. 0.05

*Convert the following decimals to percentages:*

32. 0.65

33. 2.85

34. 0.08

*Convert the following percentages to decimals:*

35. 8%

36. 7.12%

37. 23.78%

*Convert the following fractions to percentages:*

38.  $\frac{2}{5}$

39.  $\frac{3}{4}$

40.  $\frac{2}{3}$

*Convert the following percentages to fractions:*

41. 20%

42. 8%

43. 7.5%



### Topic 5: Percentage Problem Solving

44. What number is 15% of 60?

45. 66 is 11% of what number?

46. 308 is what percent of 350?

47. A \$150 jacket is going on sale for a 25% discount. How much will the jacket cost on sale?

48. Jim bought 3 CDs at a cost of \$14.99 each. What will he pay, including a 7% sales tax?

### Topic 6: Integer Arithmetic

*Perform the indicated operations:*

49.  $9 - 20$

50.  $-20 + (-3)$

51.  $40 * (-2)$

52.  $-4 - (-3)$

53.  $(-3)*(-2)$

54.  $37 - 37$

55.  $36 + (-11)$

56.  $(-22) - 2$

57.  $(-22) + (-2)$

58.  $9*(7 + 5 - 3)$

59.  $8 - 33 + (2 - 25) + 48$

60.  $45 + 9 + 6 * 5$

61.  $5 + (21 + 7)*2$

62.  $27 + 3 * 2 - 7$

63.  $20 - 2^3 + 5$

64.  $(16 - 9)^2$

### Topic 7: Data Analysis

65. Determine the mean, median, mode, and range of the numbers below:

168, 149, 27, 44, 11, 98, 44, 138, 74, 149, 44, 110

Mean: \_\_\_\_\_ Median: \_\_\_\_\_ Mode: \_\_\_\_\_ Range: \_\_\_\_\_

66. In the first game of the season, the Lancers scored 18 points. In the second game, they scored 21 points. What is the average number of points scored in the 2 games?

## Topic 8: Problem Solving

67. On a cold Chicago day the temperature was 7 degrees. Over the next three hours it dropped 4 degrees per hour. What was the temperature after 3 hours?
68. A pet shelter noticed that during one month they adopted twice as many dogs as they did cats. If they adopted 17 cats, how many dogs were adopted?
69. If 4 bottles of juice cost \$7, how much would 9 bottles cost?
70. Stan drove 162 miles in 3 hours. What is his speed in miles per hour?

## Topic 9: Solving One-Step Equations

*Solve each equation showing all work:*

71.  $x + 22 = 105$

72.  $\frac{x}{4} = 24$

$$73. \quad y - 7 = 30 + 12$$

$$74. \quad 30k = 420$$

$$75. \quad x - 8.75 = 11.6$$

$$76. \quad \frac{2}{5} + x = \frac{9}{10}$$

$$77. \quad \frac{1}{3}x = 12$$

**Topic 10:** Evaluating Expressions

$$78. \quad 3x - 17 \quad \text{when } x = 8$$

$$79. \quad 39 + 5y \quad \text{when } y = -2$$

**Topic 11:** Absolute Value

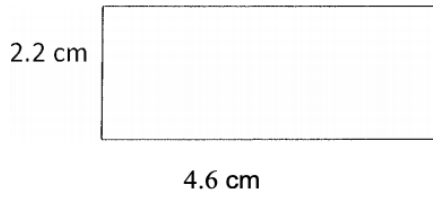
*Fill in the blank with  $<$ ,  $>$ , or  $=$*

$$80. \quad |-5| \underline{\hspace{1cm}} 3$$

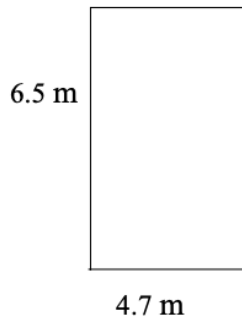
$$81. \quad |7.3| \underline{\hspace{1cm}} |-7.3|$$

**Topic 12: Area & Perimeter**

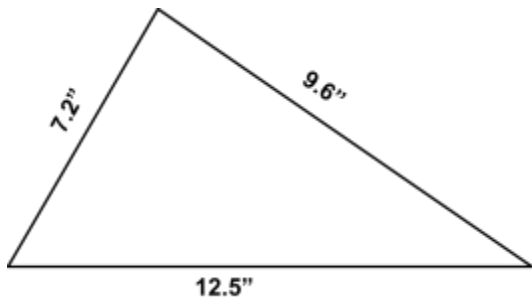
82. Determine the perimeter of the rectangle below:



83. Determine the area of the rectangle below:



84. Determine the perimeter of the triangle below:



# Answer Key:

1. 60,000 or sixty thousand
2. .007 or seven thousandths
3. 10.07
4. 837
5. <
6. <
7. =
8. >
9. <
10. =
11. -10, -7, 3, 3.4, 8
12. -0.63, -0.1, 0.45, 0.7, 0.73
13. 2, 2.04,  $\frac{5}{2}$ , 2.6,  $2\frac{2}{3}$
14.  $\frac{2}{3}$
15.  $\frac{11}{12}$
16.  $2\frac{3}{4}$
17.  $\frac{2}{3}$
18.  $2\frac{1}{4}$
19.  $\frac{3}{10}$
20.  $\frac{14}{15}$
21.  $\frac{8}{15}$
22.  $\frac{5}{9}$
23.  $\frac{2}{3}$
24.  $\frac{8}{15}$
25.  $2\frac{1}{3}$
26. .80
27. .43
28. .63
29.  $\frac{1}{8}$
30.  $\frac{1}{3}$
31.  $\frac{1}{20}$
32. 65%
33. 285%

34. 8%
35. .08
36. .0712
37. .2378
38. 40%
39. 75%
40. 66.67%
41.  $\frac{1}{5}$
42.  $\frac{2}{25}$
43.  $\frac{3}{40}$
44. 9
45. 600
46. 88%
47. \$112.50
48. \$48.12
49. -11
50. -23
51. -80
52. -1
53. 6
54. 0
55. 25
56. -24
57. -24
58. 81
59. 0
60. 84
61. 61
62. 26
63. 17
64. 49
65. Mean: 88  
Median: 86  
Mode: 44  
Range: 157
66. 19.5
67. -5 degrees
68. 34 dogs
69. \$15.75

70.  $\frac{54 \text{ miles}}{1 \text{ hour}}$
71.  $x = 83$
72.  $x = 96$
73.  $x = 49$
74.  $x = 14$
75.  $x = 20.35$
76.  $x = \frac{1}{2}$
77.  $x = 36$
78. 7
79. 29
80. >
81. =
82. Perimeter = 13.6 cm
83. Area = 30.55 m<sup>2</sup>
84. Perimeter = 29.3 inches