

**Booker T. Washington
Summer Math Packet 2017**

Completed by Thursday, August 24, 2016

Go to the BTW website (<http://btw.tulsaschools.org/>) then click the summer assignments (beach ball) and choose the course that you are enrolled in for the 2016-17 school year.

Helpful websites:

<http://patrickjmt.com/>

Free site with video lectures

<http://www.khanacademy.org/>

Free site with video lectures

<http://tutorial.math.lamar.edu/Classes/Alg/Alg.aspx>

Free site with notes and problems

www.pearsonsuccessnet.com

Site from textbook publisher Pearson (Only available to students who have access from prior years)

BOOKER T. WASHINGTON ALGEBRA I SUMMER PACKET:

USE ANSWER PAGE FOR ANSWERS AND SHOWN WORK

NAME _____ HR _____

1		Answer
2		Answer
3		Answer
4		Answer
5		Answer
6		Answer
7		Answer

8		Answer
9		Answer
10		Answer
11		Answer
12		Answer
13		Answer
14		Answer
15		Answer
16		Answer
17		Answer
18		Answer
19		Answer

Algebra 1

20		Answer
21		Answer
22		Answer
23		Answer
24		Answer
25		Answer
26		Answer
27		Answer

Name: _____

28		Answer
29		Answer
30		Answer
31		Answer
32		Answer
33		Answer
34		Answer
35		Answer
36		Answer

Algebra 1

37		Answer
38		Answer
39		Answer
40		Answer
41		Answer
42		Answer
44	<i>YOU MAY USE A CALCULATOR FROM THIS POINT (#44-104) BUT SHOW ALL WORKED OUT SOLUTIONS.....</i>	Answer
45		Answer
46		Answer

Name: _____

47		Answer
48		Answer
49		Answer
50		Answer
51		Answer
52		Answer
53		Answer
54		Answer
55	$C = \frac{5}{9}(F - 32)$	Answer

Algebra 1

56		Answer
57		Answer
58		Answer
59		Answer
60		Answer
61		Answer
62	$C = 2 \pi d$ Use $\pi = 3.14$	Answer
63	$P = a + b + c$	Answer
64	$P = 4s$	Answer

Name: _____

65	$P = 2l + 2w$	Answer
66	$A = \pi r^2$ Use $\pi = 3.14$	Answer
67	$A = s^2$	Answer
68	$A = \frac{(b_1 + b_2)}{2} \times h$	Answer
69	$V = (4 \div 3) \pi r^3$ Use $\pi = 3.14$	Answer
70	$V = \pi r^2 h$ Use $\pi = 3.14$	Answer
71	$A = \frac{1}{3} b^2 h$	Answer
72	Use Pythagorean Theorem $a^2 + b^2 = c^2$	Answer

Algebra 1

73	$\underline{\hspace{1cm}} X \underline{\hspace{1cm}} = \underline{\hspace{1cm}}$	Answer
74	$\underline{\hspace{1cm}} X \underline{\hspace{1cm}} = \underline{\hspace{1cm}}$	Answer
75	$\underline{\hspace{1cm}} X \underline{\hspace{1cm}} = \underline{\hspace{1cm}}$	Answer
76	$\underline{\hspace{1cm}} X \underline{\hspace{1cm}} = \underline{\hspace{1cm}}$	Answer
77	$\underline{\hspace{1cm}} X \underline{\hspace{1cm}} = \underline{\hspace{1cm}}$	Answer
78	$\underline{\hspace{1cm}} X \underline{\hspace{1cm}} = \underline{\hspace{1cm}}$	Answer
79	$\underline{\hspace{1cm}} X \underline{\hspace{1cm}} = \underline{\hspace{1cm}}$	Answer
80	$\underline{\hspace{1cm}} X \underline{\hspace{1cm}} = \underline{\hspace{1cm}}$	Answer
81	$\underline{\hspace{1cm}} X \underline{\hspace{1cm}} = \underline{\hspace{1cm}}$	Answer

Name: _____

82	$\underline{\hspace{1cm}} X \underline{\hspace{1cm}} = \underline{\hspace{1cm}}$	Answer
83		Answer
84		Answer
85		Answer
86		Answer
87		Answer
88		Answer
89		Answer
90		Answer
91	<p>Show Slope Formula: $m = \frac{y_2 - y_1}{x_2 - x_1}$</p> $\frac{\underline{\hspace{1cm}}}{\underline{\hspace{1cm}}} =$	Answer
93		Answer
94		Answer

Algebra 1

95		Answer
96		Answer
97		Answer
98		Answer
99		Answer
100		Answer
101		Answer
102		Answer
103		Answer

Name: _____

104		Answer
	CONGRATULATIONS! You are now ready for BTW Algebra 1! Welcome to our Fabulous School BOOKER T.	Answer

7. **Divide $5321 \div 47$**
(SHOW WORK ON ANSWER PAGE)

8. **Find the total number of calculators in an order if there are 18 boxes with 12 calculators in each box.**
(SHOW WORK ON ANSWER PAGE)

9. **Find $|-4|$** (*Absolute Value of -4*)

10. **Find the opposite of -5**

11. **Add $-3 + 3$**

12. **Subtract $-4 - (-14)$**
(SHOW WORK ON ANSWER PAGE)

13. **Multiply $(-3)(2)(-5)$**

14. **Divide $(-24) \div (3)$**
(SHOW WORK ON ANSWER PAGE)

15. **Simplify $3 \times 4^2 + 6 - 2$**
(SHOW WORK ON ANSWER PAGE)

BTW ALGEBRA I SUMMER MATH PACKET

Name _____ Hr _____

1. _____ **Name 5,200,003**

- (a) fifty-two thousand, three
- (b) five million, two hundred thousand, three
- (c) fifty-two million, two hundred three thousand
- (d) five million, two hundred three thousand

2. **Round 63,286 to the nearest thousand**

3. **Add $1,256 + 23,840 + 506$**
(SHOW WORK ON ANSWER PAGE)

4. **Subtract $451,203 - 9,177$**
(SHOW WORK ON ANSWER PAGE)

5. **Multiply $5,126 \times 372$**
(SHOW WORK ON ANSWER PAGE)

6. **Divide $133,328 \div 641$**
(SHOW WORK ON ANSWER PAGE)

16. **Find (-6^3)**
(SHOW WORK ON ANSWER PAGE)

17. **Reduce $\frac{57}{95}$ to the lowest terms**
(SHOW WORK ON ANSWER PAGE)

18. **Change $\frac{5}{7}$ to an equivalent fraction in higher terms**
(SHOW WORK ON ANSWER PAGE)

19. **Change $\frac{9}{5}$ to a mixed number**

20. **Change $6\frac{2}{3}$ to an improper fraction**
(SHOW WORK ON ANSWER PAGE)

21. **Add $\frac{5}{9} + \frac{7}{12}$**
(SHOW WORK ON ANSWER PAGE)

22. **Subtract $\frac{14}{15} - \frac{3}{20}$**
(SHOW WORK ON ANSWER PAGE)

23. **Multiply $\frac{9}{10} \times \frac{5}{9}$**
(SHOW WORK ON ANSWER PAGE)

Algebra 1

24. **Divide** $\frac{3}{4} \div \frac{7}{8}$

(SHOW WORK ON ANSWER PAGE)

25. **Add** $2\frac{3}{4} + 1\frac{5}{6} + 4\frac{1}{8}$

(SHOW WORK ON ANSWER PAGE)

26. **Subtract** $10\frac{1}{3} - 6\frac{4}{5}$

(SHOW WORK ON ANSWER PAGE)

27. **Multiply** $2\frac{1}{2} \cdot 5\frac{7}{8}$

(SHOW WORK ON ANSWER PAGE)

28. **Divide** $15\frac{2}{3} \div 3\frac{1}{3}$

(SHOW WORK ON ANSWER PAGE)

29. **How many pieces of ribbon $1\frac{3}{4}$ inches long can be cut from a piece that is $12\frac{1}{4}$ inches long?**

(SHOW WORK ON ANSWER PAGE)

30. **Simplify** $3 \times 2\frac{1}{8} \div \frac{3}{4} + 5$ [Use PEMDAS]

(SHOW WORK ON ANSWER PAGE)

31. _____ **In the number 18.63278, the place value of the 2 is:**

- (a) tenths (b) hundredths
(c) thousandths (d) ten thousandths

32. _____ **Name the number 0.00086**

- (a) eighty-six millionths (b) eighty-six ten thousandths
(c) eighty-six thousandths (d) eighty-six hundred thousandths

33. **Round 0.23714 to the nearest hundredths.**

34. **Add** $0.25 + 1.263 + 0.0348$

(SHOW WORK ON ANSWER PAGE)

35. **Subtract** $0.531 - 0.0237$

(SHOW WORK ON ANSWER PAGE)

36. **Multiply** 0.35×0.006

(SHOW WORK ON ANSWER PAGE)

37. **Divide** $2.0475 \div 0.325$

(SHOW WORK ON ANSWER PAGE)

Name: _____

38. _____ **Arrange in order from smallest to largest: 0.416, 0.061, 1.64, 0.003**

- (a) 0.416, 1.64, 0.003, 0.061 (b) 1.64, 0.416, 0.061, 0.003
(c) 0.003, 0.416, 0.416, 1.64 (d) 0.003, 0.061, 0.416, 1.64

39. **Change $\frac{19}{22}$ to a decimal**

(SHOW WORK ON ANSWER PAGE)

40. **Change 0.64 to a fraction in lowest terms**

(SHOW WORK ON ANSWER PAGE)

41. **Multiply** $\frac{1}{8} \times 0.62$

(SHOW WORK ON ANSWER PAGE)

42. **If a calculator costs \$9.98 and a notebook costs \$1.89, find the cost of 2 calculators and 3 notebooks.**

(SHOW WORK ON ANSWER PAGE)

43. **Write 0.006 as a percent**

(SHOW WORK ON ANSWER PAGE)

44. **Write $\frac{14}{25}$ as a percent**

(SHOW WORK ON ANSWER PAGE)

45. **Write 32% as a fraction**

(SHOW WORK ON ANSWER PAGE)

46. **Find 16% of 64**

(SHOW WORK ON ANSWER PAGE)

47. **40% of what number is 84?**

(SHOW WORK ON ANSWER PAGE)

48. **18 is what percent of 24?**

(SHOW WORK ON ANSWER PAGE)

49. **The finance rate charged on a credit card is 1.5%. Find the finance charge if the balance is \$150.00.**

(SHOW WORK ON ANSWER PAGE)

50. **If the sales tax on \$320.00 is \$20.80, find the sales tax rate.**

(SHOW WORK ON ANSWER PAGE)

51. **Evaluate: $-3x + 2xy$ when $x = -5$ and $y = 6$**

(SHOW WORK ON ANSWER PAGE)

52. **Multiply: $-6(2x - 8y + 10)$**

(SHOW WORK ON ANSWER PAGE)

53. **Combine like terms:**

Algebra 1

$-5a + 2b - 7c + 6c - 3b + 3a$
(SHOW WORK ON ANSWER PAGE)

54. Combine like terms:

$7(3x - 8) + 2(x - 5)$
(SHOW WORK ON ANSWER PAGE)

55. Find the Celsius temperature ($^{\circ}\text{C}$) when the Fahrenheit temperature is 86° .

Use the formula: $C = \frac{5}{9}(F - 32)$
(SHOW WORK ON ANSWER PAGE)

56. Solve: $3x - 8 = 31$
(SHOW WORK ON ANSWER PAGE)

57. Solve: $-2(3x - 6) + 18 = 24$
(SHOW WORK ON ANSWER PAGE)

58. If the sum of 3 times a number and 2 times a number is 60, find the number
(SHOW WORK ON ANSWER PAGE)

59. The ratio of 20 to 8 is:
(SHOW WORK ON ANSWER PAGE)

60. Find the value of x when $\frac{x}{6} = \frac{12}{24}$
(SHOW WORK ON ANSWER PAGE)

61. If a person uses 15 gallons of gasoline to travel 345 miles, how many gallons of gasoline will be needed to travel 506 miles?
(SHOW WORK ON ANSWER PAGE)

62. Find the circumference of a circle whose diameter is 28 inches. Use $\pi = 3.14$
Show Formula: $C = 2 \pi d$
(SHOW WORK ON ANSWER PAGE)

63. Find the perimeter of a triangle whose sides are 8 in., 9 in., and 10 in.
Formula: $P = a + b + c$
(SHOW WORK ON ANSWER PAGE)

64. Find the perimeter of a square whose side is 7.5 inches. Show Formula: $P = 4s$
(SHOW WORK ON ANSWER PAGE)

65. Find the perimeter of a rectangle whose length is 18 ft. and whose width is 9.6 ft.

Name: _____

Show Formula: $P = 2l + 2w$
(SHOW WORK ON ANSWER PAGE)

66. Find the area of a circle whose radius is 19 yards. Use $\pi = 3.14$ Show Formula: $A = \pi r^2$
(SHOW WORK ON ANSWER PAGE)

67. Find the area of a square whose side is $9\frac{1}{4}$ inches. Show Formula: $A = s^2$
(SHOW WORK ON ANSWER PAGE)

68. Find the area of a trapezoid whose height is 14.3 inches and whose bases are 9 inches and 12 inches.
Show Formula: $A = \frac{(b_1 + b_2)}{2} \times h$ (SHOW WORK ON ANSWER PAGE)

69. Find the volume of a sphere whose radius is 27 inches. Use $\pi = 3.14$
Show Formula: $V = (\frac{4}{3}) \pi r^3$
(SHOW WORK ON ANSWER PAGE)

70. Find the volume of a cylinder whose height is 12 feet and whose radius is 3 feet. Use $\pi = 3.14$ Show Formula: $V = \pi r^2 h$ (SHOW WORK)

71. Find the volume of a pyramid whose base is 14 inches by 12 inches and whose height is 10 inches.
Show Formula: $V = \frac{1}{3} b^2 h$
(SHOW WORK ON ANSWER PAGE)

72. Find the length of the hypotenuse of a right triangle if its sides are 5 yards and 12 yards. Use Pythagorean Theorem
Show Formula: $a^2 + b^2 = c^2$
(SHOW WORK ON ANSWER PAGE)

SHOW ALL CONVERSIONS: EXAMPLE-

$\frac{15 \text{ ft}}{1} \times \frac{12 \text{ in}}{1 \text{ ft}} = \frac{180 \text{ in}}{1} = 180 \text{ inches}$

Conversion factors can be found on the internet

73. How many square inches are in 15 square feet?
(SHOW CONVERSION WORK ON ANSWER PAGE)

Algebra 1

74. **Change 15 yards to inches** (SHOW CONVERSION WORK ON ANSWER PAGE)

75. **Change 84 feet to yards** (SHOW CONVERSION WORK ON ANSWER PAGE)

76. **Change 7 feet 8 inches to inches** (SHOW CONVERSION WORK ON ANSWER PAGE)

77. **Change 150 pounds to ounces** (SHOW CONVERSION WORK ON ANSWER PAGE)

78. **Change 1248 ounces to pounds** (SHOW CONVERSION WORK ON ANSWER PAGE)

79. **Change 4.5 tons to ounces** (SHOW CONVERSION WORK ON ANSWER PAGE)

80. **Change 6.4 quarts to pints** (SHOW CONVERSION WORK ON ANSWER PAGE)

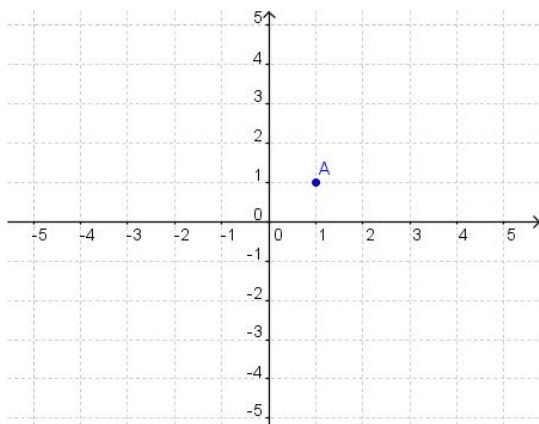
81. **Change 78 months to years** (SHOW CONVERSION WORK ON ANSWER PAGE)

82. **Change 7 miles to feet** (SHOW CONVERSION WORK ON ANSWER PAGE)

83. **In which quadrant is the point $(-6, 3)$ located?**

- (a) Q I (b) Q II (c) Q III (d) Q IV

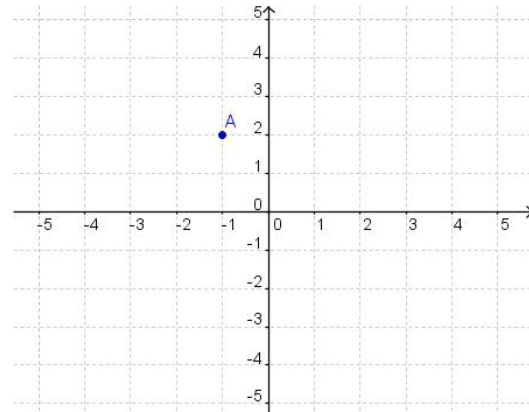
84. **Name the coordinates of Point A:**



- (a) $(1, 1)$ (b) $(-1, 1)$ (c) $(-1, -1)$ (d) $(1, -1)$

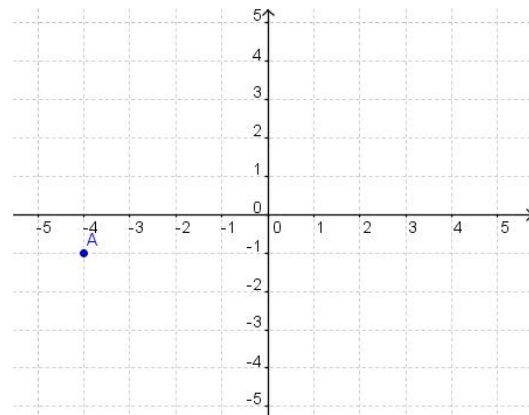
Name: _____

85. **Name the coordinates of Point A:**



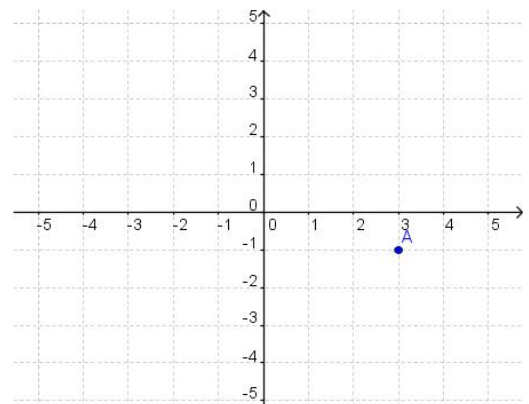
- (a) $(1, 2)$ (b) $(-2, 1)$ (c) $(-1, 2)$ (d) $(2, -1)$

86. **Name the coordinates of Point A:**



- (a) $(-1, 4)$ (b) $(4, 3)$ (c) $(1, -4)$ (d) $(-4, -1)$

87. **Name the coordinates of Point A:**



Algebra 1

- (a) (2, -3) (b) (3, -1) (c) (-3, 1) (d) (-1, 3)

88. _____ Which equation represents a **vertical line**?

- (a) $x = -5$ (b) $4x - 7y = 21$
 (c) $y = 8$ (d) $2x + y = 6$

89. _____ Find y when $x = -3$ for $6x + 2y = -10$
 (SHOW WORK ON ANSWER PAGE)

- (a) -5 (b) 4 (c) 5 (d) -4

90. _____ Which is a solution to $9x - 2y = 18$?
 (SHOW WORK ON ANSWER PAGE)

- (a) (-4, -9) (b) (-2, 0) (c) (0, 9) (d) (4, 9)

91. Find the slope of the line containing two points whose coordinates are:

and (8, 2) Show Slope Formula: $m = \frac{y_2 - y_1}{x_2 - x_1}$
 (SHOW WORK ON ANSWER PAGE)

92. _____ What is the slope of a line whose equation is:

$$y = 5/8x + 29$$

- (a) $-\frac{5}{8}$ (b) $\frac{8}{5}$ (c) $-\frac{8}{5}$ (d) $\frac{5}{8}$

93. _____ The slope of a horizontal line is:

- (a) 0 (b) 1 (c) -1 (d) undefined

94. _____ Find the y intercept of the line:

$3x - 8y = 24$. [Substitute zero for x and solve for y] (SHOW WORK ON ANSWER PAGE)

Name: _____

- (a) (0, -3) (b) (8, 0) (c) (0, 3) (d) (-8, 0)

95. Add $(8x^2 + 3x - 2) + (9x^2 - 7x + 8)$
 (SHOW WORK ON ANSWER PAGE)

96. Subtract $(3x - 2y - 10) - (5x - 10y - 15)$ [Don't forget to first distribute the negative across second parenthesis]
 (SHOW WORK ON ANSWER PAGE)

- (a) $-2x + 8y + 5$ (b) $8x - 12y + 25$
 (c) $-2x + 8y - 5$ (d) $-2x - 8y + 5$

97. _____ Multiply $9x \cdot 7x^3 y \cdot 2y$
 (SHOW WORK ON ANSWER PAGE)

98. _____ Find $(-3x^3 y^4)^2$
 (SHOW WORK ON ANSWER PAGE)

99. _____ Multiply $2x(3x - 5y + 6)$
 (SHOW WORK ON ANSWER PAGE)

100. _____ Multiply $(9x - 3)(7x + 5)$ [use FOIL]
 (SHOW WORK ON ANSWER PAGE)

101. _____ Find $(2x - 4)^2$ [use Square of a Binomial]
 (SHOW WORK ON ANSWER PAGE)

102. _____ Multiply $(x - 1)(4x^2 - 2x + 6)$
 (SHOW WORK ON ANSWER PAGE)

103. _____ Divide $48x^3 y^2 z^5 \div 16xyz^2$
 (SHOW WORK ON ANSWER PAGE)

104. _____ Divide:
 $15a^2 b^2 c^2 - 10abc^3 \div -5ac$
 (SHOW WORK ON ANSWER PAGE)