

PRE-ALG to ALG1 SUMMER PACKET. SHOW ALL WORK ON THIS PAPER!!!!**Find each sum. DO NOT use a calculator.**

1) $2 + (-6)$

2) $(-7) + (-7)$

3) $(-2) + (-2)$

4) $5 + (-7)$

5) $(-8) + 8$

6) $(-8) + 6$

Find each difference. Hint: Add the opposite. DO NOT use a calculator.

7) $(-7) - 4$

8) $3 - (-2)$

9) $(-7) - 7$

10) $(-2) - (-3)$

11) $6 - (-7)$

12) $(-1) - 5$

Find each product. Hint: Like signs positive; Unlike signs negative. DO NOT use calculator.

13) 5×-2

14) -7×-3

15) -4×7

16) -6×-6

17) -3×8

18) -8×0

Find each quotient. Hint: Like signs positive; unlike signs negative. DO NOT use calculator.

19) $24 \div -4$

20) $-16 \div -2$

21) $-42 \div 7$

22) $-35 \div 5$

23) $0 \div 10$

24) $-64 \div 8$

MULTIPLY. Change to improper fractions and answer in reduced improper fractions. DO NOT find common denominator. DO NOT use calculator.

$$25) \frac{17}{4} \cdot \frac{4}{9}$$

$$26) \frac{9}{4} \cdot \frac{12}{7}$$

$$27) \frac{20}{9} \cdot \frac{4}{5}$$

$$28) \frac{7}{10} \times \frac{6}{7}$$

Find each quotient. Hint: Keep Change Flip. Answer in improper fractions and reduce to lowest terms. DO NOT find common denominator. DO NOT USE CALCULATOR.

$$29) \frac{11}{6} \div 3\frac{3}{7}$$

$$30) \frac{3}{2} \div \frac{13}{8}$$

$$31) 1 \div 2\frac{5}{9}$$

$$32) 5\frac{1}{5} \div 5\frac{3}{7}$$

$$33) \frac{4}{9} \div 6\frac{1}{6}$$

$$34) 1 \div 5\frac{2}{3}$$

Find each sum. Find Common Denominator. Answer in reduced improper fractions. DO NOT use calculator.

$$35) \frac{3}{2} + \frac{2}{3}$$

$$36) \frac{29}{6} + \frac{3}{8}$$

$$37) \frac{5}{2} + \frac{3}{5}$$

$$38) \frac{11}{4} + \frac{2}{3}$$

$$39) \frac{2}{3} + \frac{5}{4}$$

$$40) \frac{15}{4} + \frac{16}{5}$$

Find each difference. Find Common Denominator. Answer in reduced improper fractions. DO NOT use calculator.

$$41) \frac{3}{2} - \frac{5}{8}$$

$$42) 2\frac{1}{6} - 1\frac{3}{4}$$

$$43) \frac{3}{2} - \frac{2}{7}$$

$$44) 2\frac{1}{2} - \frac{9}{5}$$

Find the GCF of each. DO NOT use calculator.

45) 48, 32

46) 70, 63

47) 54, 29

48) 42, 70

49) 72, 63

50) 76, 57

Find the LCM of each. DO NOT use calculator.

51) 20, 30

52) 40, 30

53) 21, 35

54) 40, 32

55) 32, 24

56) 4, 17

Write each as a decimal. Round to the hundredths place. (Two decimal places). USE CALCULATOR. Numerator divided by denominator.

57) $\frac{13}{90}$

58) $3\frac{3}{10}$

59) $7\frac{4}{15}$

60) $\frac{3}{8}$

Write each as a reduced, improper fraction. DO NOT use calculator.

61) 0.495

62) 0.25

63) 0.75

64) 0.5

Write each as a percent. Use repeating decimals when necessary. DO NOT use calculator.

65) 0.44

66) 0.0098

67) 0.04

68) 0.5

69) 0.971

70) 0.76

Write each as a decimal. Round to the thousandths place (3 decimal places). DO NOT USE CALCULATOR.

71) 4%

72) 64.3%

73) 65%

74) 0.8%

75) 0.9%

76) 94%

Write each as a percent. Use repeating decimals when necessary. USE MAY use calculator. Numerator divided by denominator.

77) $\frac{1}{8}$

78) $\frac{20}{33}$

79) $\frac{3}{5}$

80) $\frac{23}{33}$

81) $\frac{1}{3}$

82) $\frac{1}{2}$

Write each as a fraction. Use improper fractions not mixed numbers. DO NOT use calculator.

83) 10%

84) 650%

85) 310%

86) 87.5%

87) $33.\overline{3}\%$

88) 30%

Solve each problem. YOU MAY use your calculator, but you MUST show what you did. What did you multiply? What did you divide? In Algebra 1 we will set up and solve an equation. Of means multiply. Is means equal.

89) 70 is 120% of what?

90) 24 is 66% of what?

91) 80% of what is 38?

92) 62 is 60% of what?

93) 28 is what percent of 116?

94) 105 is what percent of 110?

Evaluate each expression. PEMDAS. DO NOT USE CALCULATOR.

95) $-5 - -4 - 2$

96) $(-1 - 5)^2$

97) $(-2 - 5) \times 3$

98) $2 + -6 - -2$

99) $6 - -6 + 1$

100) $3 - (2 - 4)$

Evaluate each using the values given. NO Calculator.

101) $b - (a - 5)$; use $a = 3$, and $b = 1$

102) $-2 - (x + y)$; use $x = 1$, and $y = 5$

103) $6 - yx$; use $x = 5$, and $y = 4$

104) y^2x ; use $x = -3$, and $y = -3$

Simplify each expression. Combine Like Terms or Use Distributive Property. NO Calculator.

105) $-5 - 4r + 6$

106) $-3b + 3b$

107) $2x - 1 + 1 + 2x$

108) $r + 8 + 1 - r$

109) $1 + 9n + n + 9$

110) $9a - 8 + a - 3$

111) $-6v + 9 - 3$

112) $8x - 1 + 3 + 6x$

113) Use Distributive Property to simplify:

$$-8(-10p - 3)$$

114) Use Arrows to show what you did.

$$-8(8x - 5)$$

115) $-9(8 - 10v)$

116) $8(-9 + 2b)$

117) $-5(n - 4)$

118) $-6(n + 3)$

119) $-3(3x + 4)$

120) $9(-4k + 2)$

Solve each equation. SHOW ALL WORK. DO NOT JUST GIVE ANSWERS. DO NOT USE CALCULATOR!

121) $v + 7 = -5$

122) $-10 + b = 3$

123) $15k = -60$

124) $-15 + p = -35$

125) $-7m = -77$

126) $-14 + n = -2$

127) $\frac{a}{11} = 14$

128) $\frac{a}{15} = -19$

Solve each equation. Show all work. DO NOT use calculator.

129) $-10n + 6 = -184$

130) $-2 + 3v = 7$

131) $4n - 4 = -68$

132) $-9 + 10p = -109$

133) $-10 + 2r = -4$

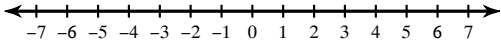
134) $2n + 9 = 25$

135) $7 + \frac{b}{14} = 6$

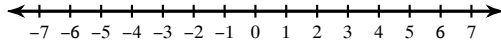
136) $-4 + \frac{n}{9} = -5$

Draw a graph for each inequality.

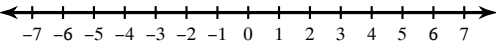
137) $n \leq -2$



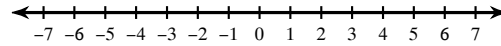
138) $k \geq -5$



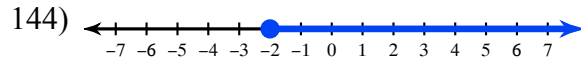
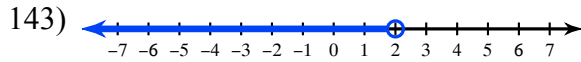
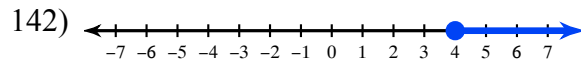
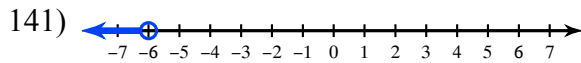
139) $b > -4$



140) $x < -1$

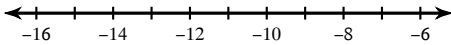


Write an inequality for each graph.

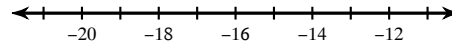


Solve each inequality and graph its solution. Show how you solved inequality.

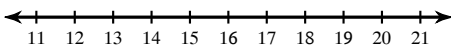
145) $19m \leq -228$



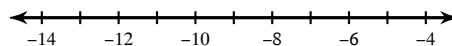
146) $17 + v \leq 1$



147) $10 \geq n - 9$



148) $-132 < 12v$



Simplify by adding exponents. Leave answers in terms of exponents. DO NOT MULTIPLY NUMBERS.

149) $8^4 \cdot 8^3$

150) $3^3 \cdot 3^3$

151) $3 \cdot 3^3 \cdot 3^3$

152) $4^4 \cdot 4^4$

153) $5^4 \cdot 5^3$

154) $2^2 \cdot 2^4$

Simplify by multiplying numbers and adding exponents. DO NOT use calculator.

155) $5n^3 \cdot 3n^3$

156) $6b^4 \cdot 7b^3$

157) $7x^4 \cdot 6x^3$

158) $b^4 \cdot 3b$

159) $6v^3 \cdot 6v^3$

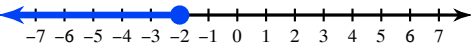
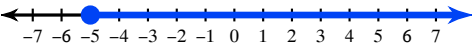
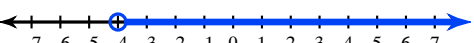
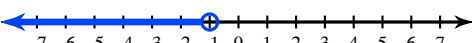
160) $4x^3 \cdot 4x^3$

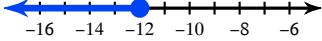
Solve each proportion by cross multiplying.

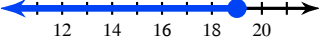
161) $\frac{5}{9} = \frac{7}{x}$

162) $\frac{3}{6} = \frac{3n}{8}$

Answers to PRE-ALG to ALG1 SUMMER PACKET. SHOW ALL WORK ON THIS PAPER!!

- | | | | |
|------------------------------------------------------------------------------------------|---------------------|-------------------------------------------------------------------------------------------|----------------------|
| 1) -4 | 2) -14 | 3) -4 | 4) -2 |
| 5) 0 | 6) -2 | 7) -11 | 8) 5 |
| 9) -14 | 10) 1 | 11) 13 | 12) -6 |
| 13) -10 | 14) 21 | 15) -28 | 16) 36 |
| 17) -24 | 18) 0 | 19) -6 | 20) 8 |
| 21) -6 | 22) -7 | 23) 0 | 24) -8 |
| 25) $\frac{17}{9}$ | 26) $\frac{27}{7}$ | 27) $\frac{16}{9}$ | 28) $\frac{3}{5}$ |
| 29) $\frac{77}{144}$ | 30) $\frac{12}{13}$ | 31) $\frac{9}{23}$ | 32) $\frac{91}{95}$ |
| 33) $\frac{8}{111}$ | 34) $\frac{3}{17}$ | 35) $\frac{13}{6}$ | 36) $\frac{125}{24}$ |
| 37) $\frac{31}{10}$ | 38) $\frac{41}{12}$ | 39) $\frac{23}{12}$ | 40) $\frac{139}{20}$ |
| 41) $\frac{7}{8}$ | 42) $\frac{5}{12}$ | 43) $\frac{17}{14}$ | 44) $\frac{7}{10}$ |
| 45) 16 | 46) 7 | 47) 1 | 48) 14 |
| 49) 9 | 50) 19 | 51) 60 | 52) 120 |
| 53) 105 | 54) 160 | 55) 96 | 56) 68 |
| 57) 0.14 | 58) 3.3 | 59) 7.27 | 60) 0.38 |
| 61) $\frac{99}{200}$ | 62) $\frac{1}{4}$ | 63) $\frac{3}{4}$ | 64) $\frac{1}{2}$ |
| 65) 44% | 66) 0.98% | 67) 4% | 68) 50% |
| 69) 97.1% | 70) 76% | 71) 0.04 | 72) 0.643 |
| 73) 0.65 | 74) 0.008 | 75) 0.009 | 76) 0.94 |
| 77) 12.5% | 78) 60.60% | 79) 60% | 80) 69.69% |
| 81) 33.3% | 82) 50% | 83) $\frac{1}{10}$ | 84) $\frac{13}{2}$ |
| 85) $\frac{31}{10}$ | 86) $\frac{7}{8}$ | 87) $\frac{1}{3}$ | 88) $\frac{3}{10}$ |
| 89) 58.3 | 90) 36.4 | 91) 47.5 | 92) 103.3 |
| 93) 24.1% | 94) 95.5% | 95) -3 | 96) 36 |
| 97) -21 | 98) -2 | 99) 13 | 100) 5 |
| 101) 3 | 102) -8 | 103) -14 | 104) -27 |
| 105) $1 - 4r$ | 106) 0 | 107) $4x$ | 108) 9 |
| 109) $10 + 10n$ | 110) $10a - 11$ | 111) $-6v + 6$ | 112) $14x + 2$ |
| 113) $80p + 24$ | 114) $-64x + 40$ | 115) $-72 + 90v$ | 116) $-72 + 16b$ |
| 117) $-5n + 20$ | 118) $-6n - 18$ | 119) $-9x - 12$ | 120) $-36k + 18$ |
| 121) $\{-12\}$ | 122) $\{13\}$ | 123) $\{-4\}$ | 124) $\{-20\}$ |
| 125) $\{11\}$ | 126) $\{12\}$ | 127) $\{154\}$ | 128) $\{-285\}$ |
| 129) $\{19\}$ | 130) $\{3\}$ | 131) $\{-16\}$ | 132) $\{-10\}$ |
| 133) $\{3\}$ | 134) $\{8\}$ | 135) $\{-14\}$ | 136) $\{-9\}$ |
| 137)  | | 138)  | |
| 139)  | | 140)  | |
| 141) $a < -6$ | 142) $n \geq 4$ | 143) $b < 2$ | 144) $n \geq -2$ |

145) $m \leq -12$:  A number line with arrows at both ends. Major tick marks are labeled at -16, -14, -12, -10, -8, and -6. A solid blue circle is placed at -12, and a blue arrow points to the left from this circle.

147) $n \leq 19$:  A number line with arrows at both ends. Major tick marks are labeled at 12, 14, 16, 18, and 20. A solid blue circle is placed at 19, and a blue arrow points to the left from this circle.

149) 8^7

150) 3^6

153) 5^7

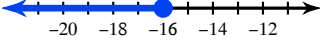
154) 2^6

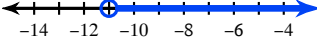
157) $42x^7$

158) $3b^5$

161) $\{12.6\}$

162) $\{1.33\}$

146) $v \leq -16$:  A number line with arrows at both ends. Major tick marks are labeled at -20, -18, -16, -14, and -12. A solid blue circle is placed at -16, and a blue arrow points to the left from this circle.

148) $v > -11$:  A number line with arrows at both ends. Major tick marks are labeled at -14, -12, -10, -8, -6, and -4. An open blue circle is placed at -11, and a blue arrow points to the right from this circle.

151) 3^7

152) 4^8

155) $15n^6$

156) $42b^7$

159) $36v^6$

160) $16x^6$