

Study Guide Test 9 - Percents

Date _____

Write each as a fraction.

1) 0.005

3) 0.56

5) 0.875

7) 0.002

9) 0.35

11) 0.125

13) 0.8

15) 0.2

17) 0.1

19) 0.81

2) 0.376

4) 0.4

6) 0.24

8) 1.25

10) 0.0025

12) 0.84

14) 0.75

16) 5.6

18) 0.9

20) 0.5

Write each as a decimal. Use repeating decimals when necessary.

21) $\frac{1}{5}$

23) $\frac{37}{100}$

25) $\frac{2}{3}$

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

29) $\frac{28}{33}$

31) $\frac{7}{1111}$

33) $\frac{3}{4}$

35) $\frac{1}{100}$

37) $\frac{5}{8}$

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

22) $\frac{1}{111}$

24) $\frac{68}{99}$

26) $\frac{20}{3333}$

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

30) $7\frac{1}{5}$

32) $\frac{2}{5}$

34) $\frac{1}{4}$

36) $3\frac{1}{8}$

38) $\frac{97}{100}$

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

Write each as a percent. Use repeating decimals when necessary.

41) $3\frac{1}{3}$

43) $\frac{3}{4}$

45) $\frac{1}{10}$

42) $\frac{13}{20}$

44) $\frac{23}{25}$

46) $\frac{2}{3}$

47) $\frac{895}{999}$

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

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

53) $1\frac{1}{2}$

55) $\frac{86}{99}$

57) $\frac{2}{5}$

59) $2\frac{23}{100}$

61) 0.0054

63) 0.02

65) 0.311

67) 0.98

69) 0.03

71) 0.275

73) 0.63

75) 0.99

77) 0.8

79) 0.57

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

50) $\frac{219}{250}$

52) $\frac{1}{4}$

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

56) $\frac{1}{200}$

58) $\frac{4}{5}$

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

62) 0.07

64) 0.09

66) 0.93

68) 0.14

70) 0.87

72) 0.531

74) 0.01

76) 0.001

78) 0.494

80) 0.502

Solve each problem.

81) 380% of 13 is what?

83) 1% of what is 149?

85) 79% of what is 49?

87) 58% of 77 is what?

89) 68 is 85% of what?

91) 57% of 75.7 is what?

93) 67.1 is 240% of what?

95) 136 is 86% of what?

97) 71% of what is 88?

99) 71 is what percent of 136?

82) What percent of 103.5 is 3?

84) What is 71% of 90?

86) 64% of 3 is what?

88) 36% of 103 is what?

90) What is 50% of 148.1?

92) 130 is 220% of what?

94) 2 is 64% of what?

96) 77.4 is what percent of 132.4?

98) What percent of 43 is 35?

100) 129 is what percent of 160?

Find each percent change. Round to the nearest tenth of a percent. State if it is an increase or decrease.

101) From 31 to 95

103) From 35 to 59

105) From 28 to 99

107) From 48 to 80

109) From 51 to 76

111) From 44 to 16

113) From 54 to 40

115) From 77 to 17

117) From 70 to 57

102) From 41 to 20

104) From 87 to 74.2

106) From 74 to 53

108) From 57 to 36

110) From 25 to 3

112) From 84 to 78

114) From 38 to 55

116) From 80 to 14

118) From 67.4 to 94

119) From 61 to 1

Find the selling price of each item.

121) Original price of a microscope: \$90.00

Discount: 40%

Tax: 5%

123) Original price of a sweater: \$23.99

Discount: 20%

Tax: 5%

125) Original price of a sweater: \$41.99

Discount: 20%

Tax: 6%

127) Original price of an MP3 player: \$50.00

Discount: 16%

Tax: 4%

129) Original price of a microscope: \$89.50

Discount: 10%

Tax: 2%

131) Original price of a pen: \$3.00

Discount: 50%

Tax: 4%

133) Original price of shoes: \$89.99

Discount: 10%

Tax: 4%

135) Original price of a tie: \$2.95

Discount: 37%

Tax: 4%

137) Original price of a jacket: \$59.50

Discount: 10%

Tax: 6%

139) Original price of a parrot: \$319.99

Discount: 34%

Tax: 5%

141) Cost of a sweater: \$25.00

Markup: 95%

Tax: 3%

143) Cost of a pen: \$3.00

Markup: 38%

Tax: 2%

145) Cost of a sweater: \$14.00

Markup: 85%

Tax: 1%

147) Cost of an oil change: \$17.00

Markup: 50%

Tax: 6%

149) Cost of a pen: \$0.95

Markup: 40%

Tax: 1%

120) From 64 to 97

122) Original price of shoes: \$99.95

Discount: 50%

Tax: 4%

124) Original price of a camera: \$985.00

Discount: 55%

Tax: 2%

126) Original price of a kitten: \$179.50

Discount: 50%

Tax: 5%

128) Original price of an oil change: \$29.50

Discount: 55%

Tax: 6%

130) Original price of a shirt: \$66.50

Discount: 57%

Tax: 4%

132) Original price of a camera: \$679.99

Discount: 30%

Tax: 2%

134) Original price of a car: \$35,000.00

Discount: 40%

Tax: 1%

136) Original price of a pen: \$2.50

Discount: 30%

Tax: 2%

138) Original price of an MP3 player: \$39.99

Discount: 40%

Tax: 2%

140) Original price of a bicycle: \$1,050.00

Discount: 30%

Tax: 1%

142) Cost of a book: \$35.95

Markup: 70%

Tax: 4%

144) Cost of a motorcycle: \$2,000.00

Markup: 5%

Tax: 4%

146) Cost of a car: \$8,000.00

Markup: 75%

Tax: 6%

148) Cost of a truck: \$16,000.00

Markup: 50%

Tax: 2%

150) Cost of a camera: \$309.95

Markup: 66%

Tax: 4%

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| 151) Cost of a jacket: \$54.99
Markup: 20%
Tax: 5% | 152) Cost of a parrot: \$490.00
Markup: 40%
Tax: 4% |
| 153) Cost of an MP3 player: \$219.95
Markup: 20%
Tax: 3% | 154) Cost of a microphone: \$149.50
Markup: 88%
Tax: 3% |
| 155) Cost of a jacket: \$379.50
Markup: 80%
Tax: 1% | 156) Cost of a motorcycle: \$13,400.00
Markup: 80%
Tax: 5% |
| 157) Cost of a tie: \$36.50
Markup: 90%
Tax: 6% | 158) Cost of an oil change: \$26.50
Markup: 35%
Tax: 4% |
| 159) Cost of a parrot: \$519.95
Markup: 20%
Tax: 6% | 160) Cost of a microscope: \$79.99
Markup: 60%
Tax: 2% |

Use simple interest to find the ending balance.

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|----------------------------------|----------------------------------|
| 161) \$45,600 at 5% for 2 years | 162) \$230 at 11% for 5 years |
| 163) \$42,000 at 12% for 6 years | 164) \$1,230 at 1% for 2 years |
| 165) \$3,000 at 11% for 5 years | 166) \$60 at 6% for 7 years |
| 167) \$1,000 at 6% for 2 years | 168) \$670 at 16% for 5 years |
| 169) \$7,000 at 9% for 5 years | 170) \$58,500 at 5% for 9 years |
| 171) \$6,200 at 14% for 6 years | 172) \$40,400 at 13% for 2 years |
| 173) \$47,000 at 10% for 2 years | 174) \$210 at 5% for 4 years |
| 175) \$24,000 at 5% for 4 years | 176) \$1,130 at 16% for 2 years |
| 177) \$53,300 at 13% for 2 years | 178) \$85 at 12% for 4 years |
| 179) \$48,200 at 6% for 5 years | 180) \$40 at 10% for 10 years |

Find the total value of the investment after the time given.

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|---|--|
| 181) \$1,280 at 5% compounded
semiannually for 8 years | 182) \$200 at 3% compounded
annually for 2 years |
| 183) \$44,800 at 2% compounded
quarterly for 2 years | 184) \$2,800 at 10% compounded
quarterly for 3 years |
| 185) \$52,500 at 10% compounded
semiannually for 6 years | 186) \$185 at 15% compounded
annually for 2 years |
| 187) \$310 at 3% compounded
semiannually for 2 years | 188) \$3,000 at 8% compounded
annually for 4 years |
| 189) \$5,400 at 11% compounded
semiannually for 2 years | 190) \$42,200 at 1% compounded
quarterly for 2 years |
| 191) \$37,100 at 9% compounded
monthly for 5 years | 192) \$55,100 at 2% compounded
semiannually for 7 years |
| 193) \$18,300 at 11% compounded
annually for 3 years | 194) \$470 at 16% compounded
monthly for 2 years |
| 195) \$1,620 at 10% compounded
semiannually for 8 years | 196) \$49,900 at 10% compounded
semiannually for 1 year |
| 197) \$57,700 at 2% compounded
annually for 2 years | 198) \$1,180 at 5% compounded
semiannually for 4 years |
| 199) \$10,500 at 3% compounded
semiannually for 6 years | 200) \$295 at 14% compounded
monthly for 2 years |

Answers to Study Guide Test 9 - Percents

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|---------------------------|--------------------------|----------------------------|--------------------------|
| 1) $\frac{1}{200}$ | 2) $\frac{47}{125}$ | 3) $\frac{14}{25}$ | 4) $\frac{2}{5}$ |
| 5) $\frac{7}{8}$ | 6) $\frac{6}{25}$ | 7) $\frac{1}{500}$ | 8) $1\frac{1}{4}$ |
| 9) $\frac{7}{20}$ | 10) $\frac{1}{400}$ | 11) $\frac{1}{8}$ | 12) $\frac{21}{25}$ |
| 13) $\frac{4}{5}$ | 14) $\frac{3}{4}$ | 15) $\frac{1}{5}$ | 16) $5\frac{3}{5}$ |
| 17) $\frac{1}{10}$ | 18) $\frac{9}{10}$ | 19) $\frac{81}{100}$ | 20) $\frac{1}{2}$ |
| 21) $0.\underline{2}$ | 22) $0.\underline{009}$ | 23) 0.37 | 24) $0.\underline{68}$ |
| 25) $0.\underline{6}$ | 26) 0.0060 | 27) $0.\underline{5}$ | 28) 0.6 |
| 29) 0.84 | 30) 7.2 | 31) $0.\underline{0063}$ | 32) 0.4 |
| 33) 0.75 | 34) 0.25 | 35) 0.01 | 36) 3.125 |
| 37) 0.625 | 38) 0.97 | 39) 0.3 | 40) 0.125 |
| 41) $333.\underline{3}\%$ | 42) 65% | 43) 75% | 44) 92% |
| 45) 10% | 46) $66.\underline{6}\%$ | 47) $89.\underline{589}\%$ | 48) $33.\underline{3}\%$ |
| 49) 50% | 50) 87.6% | 51) $69.\underline{69}\%$ | 52) 25% |
| 53) 150% | 54) 12.5% | 55) $86.\underline{86}\%$ | 56) 0.5% |
| 57) 40% | 58) 80% | 59) 223% | 60) 30% |
| 61) 0.54% | 62) 7% | 63) 2% | 64) 9% |
| 65) 31.1% | 66) 93% | 67) 98% | 68) 14% |
| 69) 3% | 70) 87% | 71) 27.5% | 72) 53.1% |
| 73) 63% | 74) 1% | 75) 99% | 76) 0.1% |
| 77) 80% | 78) 49.4% | 79) 57% | 80) 50.2% |
| 81) 49.4 | 82) 2.9% | 83) 14900 | 84) 63.9 |
| 85) 62 | 86) 1.92 | 87) 44.7 | 88) 37.1 |
| 89) 80 | 90) 74.1 | 91) 43.1 | 92) 59.1 |
| 93) 28 | 94) 3.1 | 95) 158.1 | 96) 58.5% |
| 97) 123.9 | 98) 81.4% | 99) 52.2% | 100) 80.6% |
| 101) 206.5% increase | 102) 51.2% decrease | 103) 68.6% increase | 104) 14.7% decrease |
| 105) 253.6% increase | 106) 28.4% decrease | 107) 66.7% increase | 108) 36.8% decrease |
| 109) 49% increase | 110) 88% decrease | 111) 63.6% decrease | 112) 7.1% decrease |
| 113) 25.9% decrease | 114) 44.7% increase | 115) 77.9% decrease | 116) 82.5% decrease |
| 117) 18.6% decrease | 118) 39.5% increase | 119) 98.4% decrease | 120) 51.6% increase |
| 121) $\$56.70$ | 122) $\$51.97$ | 123) $\$20.15$ | 124) $\$452.12$ |
| 125) $\$35.61$ | 126) $\$94.24$ | 127) $\$43.68$ | 128) $\$14.07$ |
| 129) $\$82.16$ | 130) $\$29.74$ | 131) $\$1.56$ | 132) $\$485.51$ |
| 133) $\$84.23$ | 134) $\$21,210.00$ | 135) $\$1.93$ | 136) $\$1.79$ |
| 137) $\$56.76$ | 138) $\$24.47$ | 139) $\$221.75$ | 140) $\$742.35$ |
| 141) $\$50.21$ | 142) $\$63.56$ | 143) $\$4.22$ | 144) $\$2,184.00$ |
| 145) $\$26.16$ | 146) $\$14,840.00$ | 147) $\$27.03$ | 148) $\$24,480.00$ |
| 149) $\$1.34$ | 150) $\$535.10$ | 151) $\$69.29$ | 152) $\$713.44$ |
| 153) $\$271.86$ | 154) $\$289.49$ | 155) $\$689.93$ | 156) $\$25,326.00$ |
| 157) $\$73.51$ | 158) $\$37.21$ | 159) $\$661.38$ | 160) $\$130.54$ |
| 161) $\$50,160.00$ | 162) $\$356.50$ | 163) $\$72,240.00$ | 164) $\$1,254.60$ |
| 165) $\$4,650.00$ | 166) $\$85.20$ | 167) $\$1,120.00$ | 168) $\$1,206.00$ |

169) \$10,150.00	170) \$84,825.00	171) \$11,408.00	172) \$50,904.00
173) \$56,400.00	174) \$252.00	175) \$28,800.00	176) \$1,491.60
177) \$67,158.00	178) \$125.80	179) \$62,660.00	180) \$80.00
181) \$1,900.17	182) \$212.18	183) \$46,623.68	184) \$3,765.69
185) \$94,282.46	186) \$244.66	187) \$329.02	188) \$4,081.47
189) \$6,689.65	190) \$43,051.42	191) \$58,086.77	192) \$63,336.03
193) \$25,027.65	194) \$645.88	195) \$3,536.26	196) \$55,014.75
197) \$60,031.08	198) \$1,437.72	199) \$12,553.99	200) \$389.69