

# Answer Key

Testname: ASSIGNMENT\_2

1)  $9 = \log_3 19683$

ID: cbm8h 2-99

Diff: 2 Page Ref: pgs 61-66

2)  $\log_{10} .0001 = -4$

ID: cbm8h 2-101

Diff: 2 Page Ref: pgs 61-66

3)  $e^{-3x} = 12$ ,  $-3x = \log_e 12$ , or  $\ln 12 = -3x$

ID: cbm8h 2-102

Diff: 2 Page Ref: pgs 61-66

4)  $\ln 60 = 4.094344562$

ID: cbm8h 2-107

Diff: 2 Page Ref: pgs 61-66

5)  $\ln[400(1.17^7)] = \ln 400 + \ln 1.17^7$

$$= \ln 400 + 7(\ln 1.17)$$

$$= 5.9914645 + 7(.1570038)$$

$$= 5.9914645 + 1.0990262 = 7.090491$$

ID: cbm8h 2-108

Diff: 2 Page Ref: pgs 61-68

6) 250:120:80

25:12:8

ID: cbm8h 3-1

Diff: 1 Page Ref: pgs 96-98

7) 30:18

5:3

ID: cbm8h 3-2

Diff: 1 Page Ref: pgs 96-98

8)  $n:6 = 24:42$

$$42n = 24 * 6$$

$$n = \frac{24 * 6}{42} = 3.42857$$

ID: cbm8h 3-11

Diff: 1 Page Ref: pgs 102-106

9)  $7:5 = x:40$

$$5x = 40 * 7$$

$$x = \frac{40 * 7}{5} = 56$$

ID: cbm8h 3-12

Diff: 1 Page Ref: pgs 102-106

10)  $\frac{4.2}{x} = \frac{4.375}{25.6}$

$$x = \frac{4.2 * 25.6}{4.375}$$

$$x = 24.576$$

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$$11) \frac{3}{4} : t = \frac{5}{16} : \frac{4}{9}$$

$$\frac{5}{16} t = \frac{3}{4} * \frac{4}{9}$$

$$t = \frac{3}{4} * \frac{4}{9} * \frac{16}{5} = 1.0666666$$

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Diff: 2 Page Ref: pgs 102-106

$$12) \frac{16}{7} : \frac{7}{9} = \frac{15}{11} : t$$

$$\frac{16}{7} t = \frac{15}{11} * \frac{7}{9}$$

$$t = \frac{15}{9} * \frac{7}{9} * \frac{7}{16} = .464$$

ID: cbm8h 3-20

Diff: 2 Page Ref: pgs 102-106

$$13) R = \frac{36}{14} = 257\%$$

ID: cbm8h 3-27

Diff: 1 Page Ref: pgs 110-111

$$14) 165\% \text{ of } x = 370$$

$$1.65x = 370$$

$$x = 224.24$$

ID: cbm8h 3-28

Diff: 1 Page Ref: pgs 111-113

$$15) x = \frac{1}{5}\% \text{ of } 12150$$

$$x = .002 * 12150$$

$$x = \$24.30$$

ID: cbm8h 3-36

Diff: 1 Page Ref: pgs 107-110

$$16) \text{Direct material : direct labor : overhead}$$

$$= \$7.25 \quad \$4.75 \quad \$3.50$$

$$= 725:475:350$$

$$= 29:19:14$$

ID: cbm8h 3-4

Diff: 1 Page Ref: pgs 96-98

$$17) \text{Price per square meter} = \frac{38225.00}{310 + 120 + 475} = \$42.237569$$

$$\text{Amount paid by } B = 120 * \text{price per square meter} = 120 * 42.237569 = \$5068.51$$

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# Answer Key

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- 18) Convert into fractions with the same denominators

$$\frac{1}{3} \cdot \frac{1}{4} \cdot \frac{1}{5} = \frac{20}{60} \cdot \frac{15}{60} \cdot \frac{12}{60}$$

the ratio is 20:15:12

total number of parts =  $20 + 15 + 12 = 47$

the value of each part is  $20000 \div 47 = 425.53$

Sean's share =  $425.53 \times 20 = \$8510.64$

Paul's share =  $425.53 \times 15 = \$6382.98$

Wallis's share =  $425.53 \times 12 = \$5106.38$

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Diff: 2 Page Ref: pgs 98-99

- 19) Let the labour cost for 2005 be \$x.

$$\frac{17.50}{13.25} = \frac{x}{231875}$$

$$x = \frac{17.50 \times 231875}{13.25}$$

$x = \$306250.00$

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- 20) Let the tax assessment for a tax of \$554 be \$x.

$$\frac{25.5}{\$1000_{assessment}} = \frac{\$554_{tax}}{\$x_{assessment}}$$

$25.5x = 554000$

$x = \$21725.49$

ID: cbm8h 3-22

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- 21) Net cost =  $12050(.8)(.84)(.906666) = 7341.82$

ID: cbm8h 5-1

Diff: 1 Page Ref: pgs 182-185

- 22) Let labor cost be \$x.

$$x = 37\frac{1}{2}\% \text{ of } 72$$

$$x = \frac{3}{8} \times 72$$

$x = 27$

ID: cbm8h 3-37

Diff: 2 Page Ref: pgs 113-114

- 23) Let the original cost be \$x.

250% of  $x = 218000$

$2.5x = 218000$

$x = 87200$

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# Answer Key

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24) Discount =  $2149 - 1360 = \$789.00$

$$\text{Rate} = \frac{789.00}{2149.00} = 36.715\%$$

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Diff: 1 Page Ref: pgs 179-182

25) 33.5% of list = \$54.72

$$.335L = 54.72$$

$$L = \$163.34$$

$$\text{Sale price} = 163.34 - 54.72 = \$108.62$$

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26)  $114.54 = L(1 - 0.17)$

$$0.83L = 114.54$$

$$L = \$138.00$$

ID: cbm8h 5-8

Diff: 1 Page Ref: pgs 179-182

27)  $.83L = 84.62$

$$L = \$101.95$$

ID: cbm8h 5-13

Diff: 2 Page Ref: pgs 179-182

28) Allow the 3% discount

$$\text{Gross reduction in debt} = 6200 - 4760 = 1440.00$$

$$\text{Amount paid} = (0.97)(1440.00) = \$1396.80$$

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Diff: 2 Page Ref:

29) Allow 5% discount on partial payment of \$842.00

$$\text{Amount paid} = (0.95)(842.00) = \$799.90$$

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30)  $C + 1.13C = 4230.00$

$$2.13C = 4230.00$$

$$\text{Cost} = \$1985.92$$

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Diff: 2 Page Ref: pgs 201-203

31) selling price = cost + markup

$$S = 108.50 + 0.40(108.50)$$

$$S = 108.50 + 43.40$$

$$S = 151.90$$

ID: cbm8h 5-27

Diff: 2 Page Ref: pgs 201-203

32) Cost + markup = selling price

$$1420.00 + .59S = S$$

$$1420 = .41S$$

$$\$3463.41 = S$$

The selling price is \$3463.41

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33) Twenty percent of selling price = 181.00

$$\text{Selling price} = \frac{181}{.225} = \$804.44$$

$$\text{Cost} = 804.44 - 181.00 = \$623.44$$

ID: cbm8h 5-31

Diff: 2 Page Ref: pgs 201-203

34) Cost = .66(69.00) = \$45.54

$$S = 45.54 + .56C + .625C$$

$$S = 1.815C$$

$$S = 1.815(45.54)$$

Selling price should be \$82.66.

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Diff: 2 Page Ref: pgs 201-203

35) Markdown = 455 - 395 = 60.00

$$\text{Rate of discount} = \frac{60.00}{455.00} = .13187 = 13.187\%$$

ID: cbm8h 5-40

Diff: 2 Page Ref: pgs 206-209

36) Cost = 54.10(.88) = \$47.61

$$47.61 + .51S = S$$

$$47.61 = .49S$$

$$\$97.16 = S$$

Regular selling price - discount = S

$$R - .25 \text{ of } R = S$$

$$.75R = \$97.16$$

$$R = \$129.55$$

ID: cbm8h 5-43

Diff: 3 Page Ref: pgs 201-203

37) Regular selling price = C + E + P

$$= 59.23 + .14R + .11R$$

$$R = 59.23 + .25R$$

$$.75R = 59.23$$

$$R = \$78.97$$

$$\text{Sale price} = .83(78.97) = 65.55$$

$$\text{Total cost} = 59.23 + .14(78.97)$$

$$= 59.23 + 11.06$$

$$= \$70.29$$

$$\text{Profit} = 65.55 - 70.29 = \text{W/A} - 4.74$$

ID: cbm8h 5-46

Diff: 3 Page Ref: pgs 197-200

38) discount = 149.99 - 79.99 = 70.00

$$\text{Rate of discount} = \frac{70.00}{149.99} = .466697 = 46.67\%$$

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39) Cost =  $(.744)97.00 = \$72.168$

Regular selling price =  $72.168 + .25R$

$.75R = 72.168$

$R = \$96.224$

New regular selling price - discount =  $R$

$N - .2N = 96.224$

$.8N = 96.224$

$N = \$120.28$

New regular selling price is \$120.28

ID: cbm8h 5-67

Diff: 3 Page Ref: pgs 206-209

40) Store's net price =  $127.00(1 - .125)(1 - .115) = 98.35$

Competitor's price =  $137.00(1 - .155) = 115.77$

Additional discount needed =  $115.77 - 98.35 = 17.42$

Additional percent discount =  $\frac{17.42}{115.77} = 15.05\%$

ID: cbm8h 5-73

Diff: 2 Page Ref: pgs 182-185

41) Reduction needed =  $4755.00 - 1900.00 = \$2855.00$

Discount allowed: 3%

Payment =  $(1 - .03)(2855.00) = \$2769.35$

ID: cbm8h 5-75

Diff: 2 Page Ref: pgs 193-194

42) Cost =  $(1 - .30)(1 - .10)4000.00 = 2520.00$

$C + .25R + .20R = R$

$2520.00 + .45R = R$

$2520.00 = .55R$

$4581.82 = R$

New regular selling price - discount =  $R$

$N - .40N = R$

$.60N = 4581.82$

$N = 7636.36$

Sale price =  $(1 - .25) \times 7636.36 = \$5757.27$

Total cost =  $2520.00 + .25(4581.82) = 2520.00 + 1145.46 = \$3665.46$

Operating profit =  $\$5757.27 - 3665.46 = \$2091.81$

ID: cbm8h 5-84

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