

Practice Basic Exercises

Part I

**Directions:** In this collection of exercises as well as the actual test, **YOU ARE NOT ALLOWED TO USE ANY DEVICE AS A CALCULATOR**, for example, cellular phone, iPods, iPads, etc.

**Multiple Choice.** Choose the one alternative that best completes the statement or answers the question.

Simply.

- 1)  $240 \div 5 - 2$  1) \_\_\_\_\_  
A) 80 B) 237 C) 46 D) 233
- 2)  $13 + 14 \cdot 29$  2) \_\_\_\_\_  
A) 56 B) 211 C) 783 D) 419
- 3)  $4 \cdot 2 - 3$  3) \_\_\_\_\_  
A) 5 B) 4 C) 24 D) 11
- 4)  $8^2 - 5 \cdot 4$  4) \_\_\_\_\_  
A) 236 B) 96 C) 36 D) 44
- 5)  $14 \cdot 18 + 16 \cdot 9$  5) \_\_\_\_\_  
A) 396 B) 2412 C) 2268 D) 4284
- 6)  $0 \div 8 + 3 \cdot 2$  6) \_\_\_\_\_  
A) 22 B) 14 C) 6 D) Undefined
- 7)  $48 \div 0 + 12$  7) \_\_\_\_\_  
A) 12 B) Undefined C) 60 D) 4
- 8)  $8 \cdot 3 + \{6 \div [8 - (3 + 2)]\}$  8) \_\_\_\_\_  
A) 28 B) 27 C) 25 D) 26
- 9)  $81 \div 3 + \{4 \cdot [18 - (7 \cdot 2)]\}$  9) \_\_\_\_\_  
A) 46 B) 33 C) 43 D) 38
- 10)  $[27 - (4 + 6) \div 2] - [1 + 24 \div 3]$  10) \_\_\_\_\_  
A) 10 B) 20 C) 8 D) 13
- 11)  $(67 - 11) \cdot [(80 + 10 \div 5) - (8 \cdot 8 - 3 \cdot 3)]$  11) \_\_\_\_\_  
A) 1612 B) 1476 C) 1512 D) 1569
- 12)  $4 \cdot \{(300 - 75 \div 5) - [3 \cdot 23 - (8 - 2 \cdot 3)]\}$  12) \_\_\_\_\_  
A) -628 B) 872 C) 2648 D) 822
- 13)  $\{[57 - 2 \cdot 4] - [69 \div (1 + 2)]\} \cdot 8$  13) \_\_\_\_\_  
A) 296 B) 192 C) 256 D) 208

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- 14)  $(2 + 3) [7 + (6 + 4)]$  14) \_\_\_\_\_  
 A) 45 B) 18 C) 85 D) 22
- 15)  $7[2 + 2(2^2)]$  15) \_\_\_\_\_  
 A) 1764 B) 252 C) 70 D) 126
- 16)  $(8 + 4) [8 + (3 + 8)]$  16) \_\_\_\_\_  
 A) 228 B) 608 C) 1024 D) 100
- 17)  $4[7^2 + 8(3 + 8)]$  17) \_\_\_\_\_  
 A) 116 B) 324 C) 548 D) 2508
- 18)  $\frac{53+7}{3^2-4}$  18) \_\_\_\_\_  
 A) 10 B) 30 C) 12 D) 18
- 19)  $\frac{46(11-8)-30}{3^2-3}$  19) \_\_\_\_\_  
 A) 24 B) 23 C) 36 D) 18
- 20)  $9\sqrt{9} + 8\sqrt{36}$  20) \_\_\_\_\_  
 A) 9 B) 369 C) 35 D) 75
- 21)  $\frac{\sqrt{64} + 8}{10 + 2(16 - 8) - 3^2 - 9}$  21) \_\_\_\_\_  
 A) 8 B) 2 C) 16 D) 64
- 22)  $[\sqrt{16} \div (7 - 3) + 9^2] - (\sqrt{9} + \sqrt{1})^2$  22) \_\_\_\_\_  
 A) 72 B) 66 C) 74 D) 90
- 23)  $(59 - 18) \cdot [(80 + 25 \div 5) - (8 \cdot 8 - 1 \cdot 1)]$  23) \_\_\_\_\_  
 A) 902 B) 1002 C) 959 D) 866
- 24)  $5 \cdot \{(300 - 75 \div 5) - [3 \cdot 28 - (8 - 2 \cdot 3)]\}$  24) \_\_\_\_\_  
 A) 965 B) 1015 C) 2791 D) -485

**Multiply. Write the answer in the simplest form.**

- 25)  $\frac{5}{3} \cdot \frac{18}{10}$  25) \_\_\_\_\_  
 A)  $\frac{25}{27}$  B)  $\frac{5}{7}$  C) 3 D)  $\frac{23}{13}$

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26)  $\frac{4}{5} \cdot \frac{3}{7} \cdot \frac{3}{5}$   
 A)  $\frac{28}{25}$

B)  $\frac{36}{175}$

C)  $\frac{12}{175}$

D)  $\frac{36}{17}$

26) \_\_\_\_\_

27)  $\frac{3}{4} \cdot \frac{17}{25}$   
 A)  $\frac{20}{29}$

B)  $\frac{75}{68}$

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

D)  $\frac{51}{100}$

27) \_\_\_\_\_

28)  $\frac{5}{1} \cdot \frac{22}{21}$   
 A)  $\frac{110}{21}$

B)  $\frac{26}{23}$

C)  $\frac{27}{22}$

D)  $\frac{105}{22}$

28) \_\_\_\_\_

**Divide. Write the answer in the simplest form.**

29)  $\frac{2}{15} \div \frac{3}{16}$   
 A)  $\frac{31}{45}$

B)  $\frac{32}{43}$

C)  $\frac{32}{45}$

D)  $\frac{30}{45}$

29) \_\_\_\_\_

30)  $\frac{3}{11} \div \frac{7}{18}$   
 A)  $\frac{53}{77}$

B)  $\frac{52}{77}$

C)  $\frac{54}{77}$

D)  $\frac{18}{25}$

30) \_\_\_\_\_

31)  $\frac{1}{10} \div \frac{5}{18}$   
 A)  $\frac{9}{23}$

B)  $\frac{7}{25}$

C)  $\frac{8}{25}$

D)  $\frac{9}{25}$

31) \_\_\_\_\_

32)  $\frac{4}{19} \div \frac{4}{15}$   
 A)  $\frac{15}{17}$

B)  $\frac{13}{19}$

C)  $\frac{15}{19}$

D)  $\frac{14}{19}$

32) \_\_\_\_\_

33)  $\frac{5}{9} \div \frac{9}{8}$   
 A)  $\frac{14}{17}$

B)  $\frac{40}{81}$

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

D)  $\frac{13}{18}$

33) \_\_\_\_\_

34)  $\frac{15}{7} \div \frac{1}{7}$   
 A) 16

B) 14

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

D) 15

34) \_\_\_\_\_

## Practice Basic Exercises

**Solve**

- 35) A gardener wants to put a fence around a garden with sides of lengths 61 m, 17 m, 86 m, and 60 m. How much fencing must he buy? 35) \_\_\_\_\_  
 A) 156 m                      B) 224 m                      C) 292 m                      D) 294 m

**Solve. Write the answer in simplest form.**

- 36) A rectangular flower bed in front of a building measures  $2\frac{2}{9}$  feet by  $5\frac{2}{5}$  feet. What is the total area of the flower bed? 36) \_\_\_\_\_  
 A) 12 square feet              B) 13 square feet              C)  $10\frac{4}{45}$  square feet              D) 14 square feet

**Solve.**

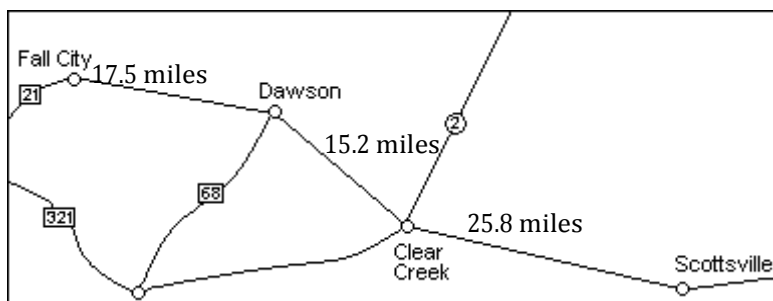
- 37) Ted walks around a lake on a path that is  $4\frac{6}{7}$  miles long. It takes him  $1\frac{2}{7}$  hours to complete his walk. What is his average speed (in miles per hour)? 37) \_\_\_\_\_  
 A)  $3\frac{8}{9}$  miles per hour      B)  $3\frac{7}{8}$  miles per hour      C)  $3\frac{7}{9}$  miles per hour      D)  $4\frac{7}{9}$  miles per hour

**Solve. Write the answer in simplest form.**

- 38) Maria exercises for  $2\frac{4}{7}$  hours every Saturday. She runs for  $\frac{1}{6}$  of the times that she exercises. How much time does she spend running every Saturday? 38) \_\_\_\_\_  
 A)  $4\frac{3}{7}$  hours                      B)  $2\frac{4}{42}$  hours                      C)  $\frac{3}{7}$  hour                      D)  $\frac{1}{7}$  hour

**Perform the indicated operations. Round the result to the nearest thousandth if necessary.**

- 39) Find the total distance from Fall City to Scottsville. 39) \_\_\_\_\_



- A) 60.8                              B) 43.3                              C) 32.7                              D) 58.5

**Solve.**

- 40) Meredith got a monthly cable bill for a base rate of \$18.30, an additional \$5.00 for a package of movie channels, a charge of \$2.33 for taxes, and a credit of \$17.71 to make up for a billing error the previous month. How much was the cable bill? 40) \_\_\_\_\_  
 A) \$46.33                      B) \$43.33                      C) \$7.92                      D) \$5.93

## Practice Basic Exercises

### Answer Key

#### Part 1 Practice Test

- 1) C
- 2) D
- 3) A
- 4) D
- 5) A
- 6) C
- 7) B
- 8) D
- 9) C
- 10) D
- 11) C
- 12) B
- 13) D
- 14) C
- 15) C
- 16) A
- 17) C
- 18) C
- 19) D
- 20) D
- 21) B
- 22) B
- 23) A
- 24) B
- 25) C
- 26) B
- 27) D
- 28) A
- 29) C
- 30) C
- 31) D
- 32) C
- 33) B
- 34) D
- 35) B
- 36) A
- 37) C
- 38) C
- 39) D
- 40) C

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Practice Basic Exercises

Part II

**Directions:** In this collection of exercises as well as the actual test, **YOU ARE NOT ALLOWED TO USE ANY DEVICE AS A CALCULATOR**, for example, cellular phone, iPods, iPads, etc.

**Multiple Choice.** Choose the one alternative that best completes the statement or answers the question.

**Add.**

1)  $32 + 14$  A) 47 B) 46 C) 18 D) 45 1) \_\_\_\_\_

2)  $-4 + (-19)$  A) 23 B) -15 C) 15 D) -23 2) \_\_\_\_\_

3)  $-17 + 19$  A) -2 B) -36 C) 2 D) 36 3) \_\_\_\_\_

4)  $\frac{2}{5} + \left(-\frac{4}{5}\right)$  A)  $\frac{2}{5}$  B)  $-\frac{6}{5}$  C)  $\frac{6}{5}$  D)  $-\frac{2}{5}$  4) \_\_\_\_\_

**Evaluate.**

5)  $10^2$  A) 20 B) 1024 C) 121 D) 100 5) \_\_\_\_\_

6)  $10^4$  A) 10,000 B) 1,048,576 C) 40 D) 100 6) \_\_\_\_\_

**Solve the equation.**

7)  $7x - (6x - 1) = 2$  A)  $-\frac{1}{13}$  B) 1 C) -1 D)  $\frac{1}{13}$  7) \_\_\_\_\_

8)  $5(2x - 1) = 20$  A)  $\frac{5}{2}$  B)  $\frac{3}{2}$  C)  $\frac{19}{10}$  D)  $\frac{21}{10}$  8) \_\_\_\_\_

9)  $(y - 7) - (y + 3) = 4y$  A) -2 B)  $-\frac{10}{7}$  C)  $-\frac{1}{4}$  D)  $-\frac{5}{2}$  9) \_\_\_\_\_

Practice Basic Exercises

**Multiple Choice.** Choose the one alternative that best completes the statement or answers the question.

**Write the ratio as a ratio of whole numbers using fractional notation. Write the fraction in simplest form.**

10) 7.6 to 10 10) \_\_\_\_\_

- A)  $\frac{25}{19}$                       B)  $\frac{19}{25}$                       C)  $\frac{38}{5}$                       D)  $\frac{7.6}{10}$

11)  $1\frac{2}{9}$  to  $3\frac{1}{3}$  11) \_\_\_\_\_

- A)  $\frac{11}{30}$                       B)  $\frac{11}{20}$                       C)  $\frac{30}{11}$                       D)  $\frac{33}{40}$

12) 6 kilometers to 21 kilometers 12) \_\_\_\_\_

- A) 3 kilometers                      B)  $\frac{2}{7}$  kilometers                      C) 3                      D)  $\frac{2}{7}$

**Find the ratio described as a fraction in simplest form.**

13) Find the ratio of the width to the length of the rectangular dog run sketched below. 13) \_\_\_\_\_

width = 14 meters



length = 20 meters

- A)  $\frac{7}{17}$  meters                      B)  $\frac{3}{10}$  meters                      C)  $\frac{7}{10}$  meters                      D)  $\frac{10}{7}$  meters

**Write the rate as a unit rate.**

14) 299 cars in 230 households 14) \_\_\_\_\_

- A) 529 cars/household                      B) 0.769 car/household  
C) 69 cars/household                      D) 1.3 cars/household

15) An animal can move at 1440 feet per hour. Write this rate in feet per minute. 15) \_\_\_\_\_

- A) 24 ft/min                      B)  $\frac{2}{5}$  ft/min                      C) 86,000 ft/min                      D) 84 ft/min

**Find the proportion, find the unknown number n.**

16)  $\frac{24}{4} = \frac{18}{n}$  16) \_\_\_\_\_

- A) 6                      B) 4                      C) 18                      D) 3

17)  $\frac{6}{\frac{1}{2}} = \frac{12}{n}$  17) \_\_\_\_\_

- A) 1                      B) 6                      C)  $\frac{1}{6}$                       D) 4

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18)  $\frac{n}{\frac{4}{5}} = \frac{2\frac{1}{2}}{1\frac{1}{3}}$  18) \_\_\_\_\_  
 A)  $2\frac{2}{3}$                       B)  $\frac{2}{3}$                       C)  $1\frac{1}{3}$                       D)  $1\frac{1}{2}$

19)  $\frac{0.12}{10} = \frac{n}{0.5}$  19) \_\_\_\_\_  
 A) 0.006                      B) 2.4                      C) 0.012                      D) 0.06

**Solve.**

20) It takes Sarah 26 minutes to type and spell check 6 pages of a manuscript. Find how long it takes her to type and spell check 21 pages. Round answers to the nearest whole number if necessary. 20) \_\_\_\_\_  
 A) 546 min                      B) 5 min                      C) 26 min                      D) 91 min

21) On an architect's blueprint, 1 inch corresponds to 2 feet. Find the length of a wall represented by a line  $4\frac{1}{2}$  inches long on the blueprint. Round to the nearest tenth if necessary. 21) \_\_\_\_\_  
 A) 4.4 ft.                      B) 9 ft.                      C) 25 ft.                      D) 225 ft.

22) It is recommended that there be at least 11.2 square feet of floor space in a classroom for every student in the class. Find the minimum floor space that 46 students require. Round to the nearest tenth if necessary. 22) \_\_\_\_\_  
 A) 11.2 sq. ft.                      B) 24.3 sq. ft.                      C) 410.7 sq. ft.                      D) 515.2 sq. ft.

**Write the percent as a decimal.**

23) 69.8% 23) \_\_\_\_\_  
 A) 69.8                      B) 0.0698                      C) 0.698                      D) 6.98

**Write the decimal as a percent.**

24) 0.049 24) \_\_\_\_\_  
 A) 0.049%                      B) 49%                      C) 0.49%                      D) 4.9%

**Write the percent as a fraction or mixed number in simplest form.**

25) 60% 25) \_\_\_\_\_  
 A)  $1\frac{1}{5}$                       B)  $\frac{3}{10}$                       C)  $\frac{3}{5}$                       D) 6

**Write the fraction or mixed number as a percent.**

26)  $\frac{3}{8}$  26) \_\_\_\_\_  
 A)  $38\frac{1}{2}\%$                       B)  $37\frac{1}{2}\%$                       C) 38%                      D) 36%

**Solve.**

27) 0.2 is 10% of what number? 27) \_\_\_\_\_  
 A) 20                      B) 0.2                      C) 0.02                      D) 2



Practice Basic Exercises

- 28) What number is 22% of 20? 28) \_\_\_\_\_  
A) 44 B) 4400 C) 4.4 D) 440
- 29) 11 is what percent of 50? 29) \_\_\_\_\_  
A) 2.2% B) 2200% C) 22% D) 0.22%
- 30) The Fenner family paid 21% of the purchase price of a \$87,000 home as a down payment. Determine the amount of the down payment. 30) \_\_\_\_\_  
A) \$183 B) \$4143 C) \$18,270 D) \$1827
- 31) In a recent survey of 2500 people, 50 said that their favorite color of car was blue. What percent of the people surveyed like blue cars? 31) \_\_\_\_\_  
A) 51% B) 50% C) 2% D) 3%
- 32) The enrollment at a local college increased by 5% over last year's enrollment of 800. Find the current enrollment. 32) \_\_\_\_\_  
A) 1200 students B) 805 students C) 40 students D) 840 students

**Solve. Round to the nearest tenth, if necessary.**

- 33) The number of video stores in a region recently decreased from 130 to 104. Find the percent decrease. 33) \_\_\_\_\_  
A) 80% B) 25% C) 400% D) 20%
- 34) A company increased the number of its employees from 200 to 285. What was the percent increase in employees? 34) \_\_\_\_\_  
A) 70.2% B) 42.5% C) 29.8% D) 58.8 %

**Solve.**

- 35) A blouse costs \$112 and a skirt costs \$59. What is the total price for purchasing these items if the sales tax rate is 8%? 35) \_\_\_\_\_  
A) \$171.00 B) \$184.68 C) \$13.68 D) \$307.80
- 36) A sales representative is paid a commission rate of 2.4%. Find her commission if she sold \$45,140. 36) \_\_\_\_\_  
A) \$1083.36 B) \$18,808.33 C) \$46,223.36 D) \$1880.83
- 37) A \$2400 necklace is on sale at 15% off. Find the discount. 37) \_\_\_\_\_  
A) \$2040.00 B) \$2364.00 C) \$360.00 D) \$36.00
- 38) A \$310 painting is on sale at 35% off. Find the sale price. 38) \_\_\_\_\_  
A) \$2991.50 B) \$201.50 C) \$10.85 D) \$108.50
- 39) A company borrows \$65,000 for 5 years at a simple interest rate of 6.5% to buy software. Find the total amount paid on the loan. 39) \_\_\_\_\_  
A) \$211,250.00 B) \$86,125.00 C) \$67,112.50 D) \$21,125.00

Practice Basic Exercises

**Solve. If needed, round money amounts to two decimal places and all other amounts to one decimal place.**

40) Jeans are on sale at the local department store for 20% off. If the jeans originally cost \$40 find the sale price. 40) \_\_\_\_\_

- A) \$39.20                      B) \$32.00                      C) \$48.00                      D) \$8.00

41) The local clothing store marks up the price that it pays to the clothing manufacturer by 50%. If the selling price of a pair of jeans is \$99, how much did the clothing store pay for the jeans? 41) \_\_\_\_\_

- A) \$66.00                      B) \$148.50                      C) \$198.00                      D) \$16.50

42) A store is advertising 30% off sale on everything in the store. Find the discount of a chair that regularly sells for \$210. 42) \_\_\_\_\_

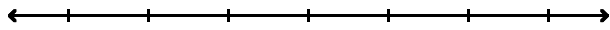
- A) \$147.00                      B) \$63.00                      C) \$203.70                      D) \$6.30

43) A store is advertising 10% off sale on everything in the store. Find the discount of a sofa that regularly sells for \$2200. 43) \_\_\_\_\_

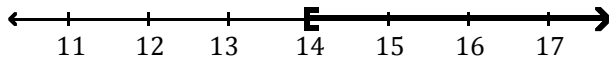
- A) \$220.00                      B) \$22.00                      C) \$1980.00                      D) \$2178.00

**Solve the inequality. Graph the solution set and write it in interval notation.**

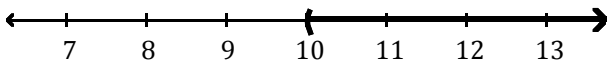
44)  $5x + 2 > 4x + 12$  44) \_\_\_\_\_



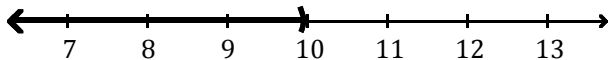
A)  $[14, \infty)$



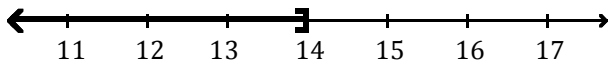
B)  $(10, \infty)$



C)  $(-\infty, 10)$



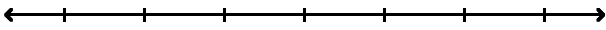
D)  $(-\infty, -14]$



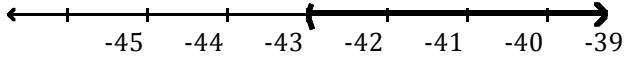
Practice Basic Exercises

45)  $-6 \geq \frac{1}{7} X$

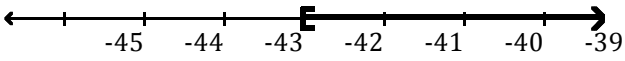
45) \_\_\_\_\_



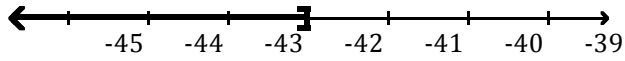
A)  $(-42, \infty)$



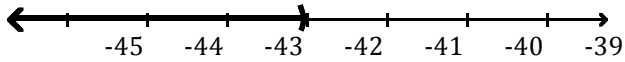
B)  $[-42, \infty)$



C)  $(-\infty, -42]$

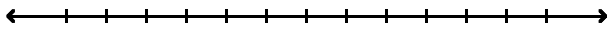


D)  $(-\infty, -42)$

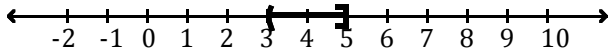


46)  $-5 \leq -2x + 5 < -1$

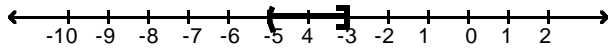
46) \_\_\_\_\_



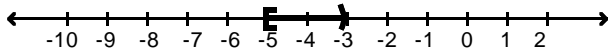
A)  $(3, 5]$



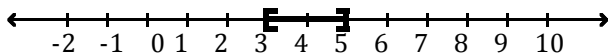
B)  $(-5, -3]$



C)  $[-5, -3)$



D)  $[3, 5]$



## Practice Basic Exercises

### Answer Key

#### Part 2 Practice Test

- 1) B
- 2) D
- 3) C
- 4) D
- 5) D
- 6) A
- 7) B
- 8) A
- 9) D
- 10) B
- 11) A
- 12) D
- 13) C
- 14) D
- 15) A
- 16) D
- 17) A
- 18) D
- 19) A
- 20) D
- 21) B
- 22) D
- 23) C
- 24) D
- 25) C
- 26) B
- 27) D
- 28) C
- 29) C
- 30) C
- 31) C
- 32) D
- 33) D
- 34) B
- 35) B
- 36) A
- 37) C
- 38) B
- 39) B
- 40) B
- 41) A
- 42) B
- 43) A
- 44) B
- 45) C
- 46) A

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