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PUBLICATIONS

**5th grade**

**MATH**

# MATH 500

## Teacher's Guide

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# MATH SCOPE & SEQUENCE

## Grade 5

PLACE VALUE, ADDITION, AND SUBTRACTION <ul style="list-style-type: none"> <li>• Place value</li> <li>• Rounding and estimating</li> <li>• Addition</li> <li>• Subtraction</li> </ul>	UNIT 1
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MEASUREMENT <ul style="list-style-type: none"> <li>• The metric system</li> <li>• The customary system</li> <li>• Time</li> <li>• Temperature</li> </ul>	UNIT 5
FACTORS AND FRACTIONS <ul style="list-style-type: none"> <li>• Factors</li> <li>• Equivalent fractions</li> <li>• Fractions</li> </ul>	UNIT 6
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DATA ANALYSIS AND PROBABILITY <ul style="list-style-type: none"> <li>• Collecting data</li> <li>• Analyzing data</li> <li>• Displaying data</li> <li>• Probability</li> </ul>	UNIT 8
GEOMETRY <ul style="list-style-type: none"> <li>• Geometry</li> <li>• Classifying plane figures</li> <li>• Classifying solid figures</li> <li>• Transformations</li> <li>• Symmetry</li> </ul>	UNIT 9
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## SELF TEST 2

**2.01** false

The largest place value they have in common is the ones' place.

**2.02** true

**2.03** b

**2.04** b

The digit to the right of the hundreds' place (2) is less than 5, so keep 9 the same. The digits to the right of the hundreds' place become zeros.

**2.05** a

1 is in the thousands' place. The digit to the right of the thousands' place (7) is greater than 5, so round 1 up to 2. The digits to the right of the thousands' place become zeros.

**2.06** b

4 is in the ones' place. The digit to the right of the ones' place (2) is less than 5, so keep 4 the same. The digits to the right of the ones' place become zeros.

**2.07** c

The digit to the right of the hundreds' place (6) is greater than 5, so round 9 up to 10. The 4 becomes 5 and the 9 becomes a zero. The digits to the right of the hundredths' place become zeros.

**2.08** b

$$5 + 9 = 14$$

**2.09** b

$$9,000 - 4,000 = 5,000$$

**2.010** a

$$130 + 60 = 190$$

**2.011** c

$$\$5 - \$2 = \$3$$

**2.012** c

**2.013** 76

$$49 + 20 = 69$$

$$69 + 7 = 76$$

**2.014** 275

$$40 + 15 = 55$$

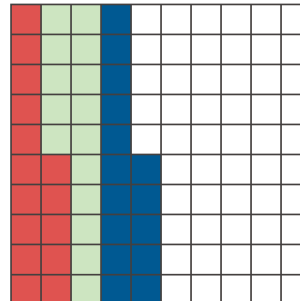
$$220 + 55 = 275$$

**2.015** 273

$$578 - 300 = 278$$

$$278 - 5 = 273$$

8. Compare using  $<$ ,  $>$ , or  $=$ .  $2^3$  \_\_\_ 8  
 a.  $<$                                       b.  $>$                                       c.  $=$
9. Estimate the product of 7.8 and 11.4 by rounding.  
 a. 77                                      b. 84                                      c. 96                                      d. 88
10. Multiply.  $7.8 \times 11.4$   
 a. 78.92                                      b. 88.92                                      c. 171.0                                      d. 77.32
11. Estimate the following product using a power of ten.  $10.8 \times 75.14$   
 a. 751.4                                      b. 775                                      c. 7,514                                      d. 7,750
12. Which of the following number sentences is an example of the Distributive Property?  
 a.  $4 \times (10 + 8) = (4 \times 10) + 8$                                       b.  $4 \times (10 + 8) = (4 + 10) \times 8$   
 c.  $4 \times (10 + 8) = (4 \times 10) + (4 \times 8)$                                       d.  $4 \times (10 + 8) = (4 \times 10) + (8 \times 10)$
13. What is another way to represent 10?  
 a.  $10^1$                                       b.  $10^2$                                       c.  $10^3$                                       d.  $10^4$
14. Find the product.  $67 \times 10^2$   
 a. 670                                      b. 6,700                                      c. 67,000                                      d. 670,000
15. Which multiplication problem is represented by this grid?



16. Jared makes \$7.35 an hour working at a local sports equipment store. How much does he make in 5 hours?  
 a. \$12.35                                      b. \$35.35                                      c. \$36.75                                      d. \$36.55
17. Mrs. Jensen bought a pair of shorts and three t-shirts. Each t-shirt cost \$10.99, and the pair of shorts cost \$14. What was her total cost?  
 a. \$24.99                                      b. \$46.97                                      c. \$52.99                                      d. \$18.97

Fill in each blank with the correct answer.

18.  $64 \times 43 =$  \_\_\_\_\_
19.  $10 \times 8.675 =$  \_\_\_\_\_
20.  $27 \times 4.7 =$  \_\_\_\_\_

## TEST

1. true  
2. false

$$\begin{array}{r} 37 \text{ R } 14 \\ 56 \overline{) 2,086} \\ \underline{168} \phantom{00} \\ 406 \phantom{00} \\ \underline{392} \phantom{00} \\ 14 \phantom{00} \end{array}$$

3. a  
4. d

$$22 \div 4 = 5 \text{ R}2$$

5. a

$$240 \div 10 = 24 \text{ and } 24 \div 8 = 3$$

6. c

The dividend is 21, the divisor is 7, and the quotient is 3.

7. b

$$1,800 \div 3 = 600$$

8. d

Move the decimal point three places to the left.

9. a

$$640 \div 8 = 80$$

10. d

$$\begin{array}{r} 38 \text{ R } 5 \\ 6 \overline{) 233} \\ \underline{18} \phantom{00} \\ 53 \phantom{00} \\ \underline{48} \phantom{00} \\ 5 \phantom{00} \end{array}$$

11. b

$$\begin{array}{r} 645 \text{ R } 3 \\ 4 \overline{) 2,583} \\ \underline{24} \phantom{00} \\ 18 \phantom{00} \\ \underline{16} \phantom{00} \\ 23 \phantom{00} \\ \underline{20} \phantom{00} \\ 3 \phantom{00} \end{array}$$

12. b

$$140 \div 22 = 6 \text{ R}8$$

13. c  
14. a

$$\begin{array}{r} 22 \text{ R } 9 \\ 27 \overline{) 603} \\ \underline{54} \phantom{00} \\ 63 \phantom{00} \\ \underline{54} \phantom{00} \\ 9 \phantom{00} \end{array}$$

15. a

$$\begin{array}{r} 1 \phantom{0} 1 \\ \$8.97 \\ + 0.63 \\ \hline \$9.60 \end{array}$$

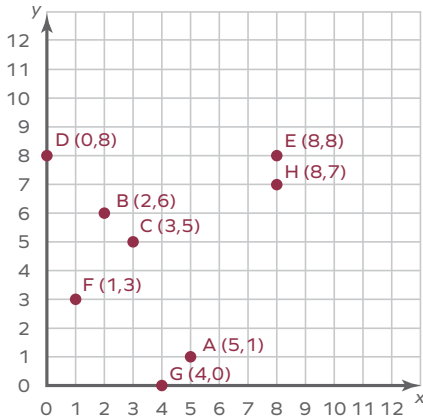
16. c

$$\begin{array}{r} 3.20 \\ 3 \overline{) 9.60} \\ \underline{9} \phantom{00} \\ 06 \phantom{00} \\ \underline{6} \phantom{00} \\ 00 \phantom{00} \end{array}$$

17. 9

$$36 \div 9 = 4$$

3.11



3.12 c

If  $x = 7$ , then  $y = 5$ :  $y = 7 - 2$ ,  $y = 5$ .

3.13 d

If  $x = 10$ , then  $y = 15$ :  $y = 10 + 5$ ,  $y = 15$ .

3.14 c

All of the functions students are working with are linear.

3.15 a

Line A passes through  $(0, 6)$ :  $6 = 0 + 6$ .

3.16 c

If  $x = 0$ , then  $y = 0$ :  $0 = 8 \times 0$ .

3.17 b

If  $x = 0$ , then  $y = 7$ :  $7 = 0 + 7$ .

3.18 c, d

The lines are not the same steepness, and therefore not parallel.

3.19 a, c

If  $x = 3$ , then  $y = 6$  for  $y = x + 3$ :  $6 = 3 + 3$ , and  $y = 2x$ :  $6 = 2 \times 3$ .

3.20



3.21 coordinate

3.22 a, c

1 gallon costs \$3 and the cost increases by \$3 for each additional gallon.

3.23 d

In 8 hours she would ride 80 miles; 10 miles each hour.

3.24 a

Graph A shows that 1 yard costs \$4 and 2 yards cost \$8, or 4 more dollars.

3.25 b, c

In each case, 0 input gives 0 output. No time has passed if she hasn't started running, and there is no cost if no gas is bought. In the other two cases, there is a starting number:  $68^\circ$  at 0 time, \$5.00 at 0 minutes.

3.26 c

At 7 miles each hour, he'll run  $7 \times 8$ , or 56 miles.

3.27 b

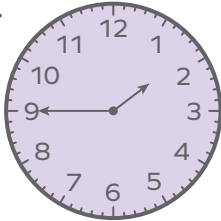
At 6 miles each hour, he'll run  $6 \times 5$ , or 30 miles.

## SECTION 3

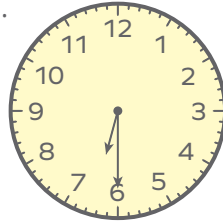
- 3.1 a. 1  
b. 2

- 3.2 a. 4:15  
b. 5:00  
c. 6:45  
d. 8:20  
e. 9:55  
f. 2:10

- 3.3 a.



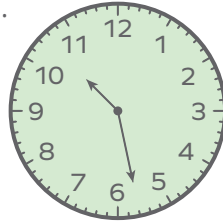
- b.



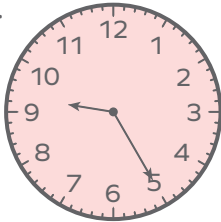
- c.



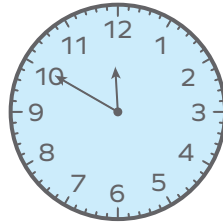
- d.



- e.



- f.



- 3.4 c

Most television shows are 30 minutes or one hour long.

- 3.5 c

Even the fastest jet would take over an hour, and an airline flight would be several hours.

- 3.6 c

$$80 + 40 = 120, 120 \div 60 = 2$$

- 3.7 b

4 hours, 10 minutes =  $4 \times 60 + 10 = 250$ .  
2 hours, 20 minutes =  $2 \times 60 + 20 = 140$  minutes.  
 $250 - 140 = 110$ .  
110 minutes = 1 hour, 50 minutes.

- 3.8 c

A typical school day is 5 to 6 hours long, although it might feel like a century.

- 3.9 c

$$1 \text{ hour} = 60 \text{ minutes}, 5 \times 60 = 300$$

- 3.10 c

$$420 \div 60 = 7$$

- 3.11 d

$$480 \div 60 = 8$$

- 3.12 a. one half hour  
b. 40 minutes  
c. 1 hour, 20 minutes  
d. 85 minutes  
e. 3 hours, 10 minutes  
f. 200 minutes

- 3.13 a. 6 hours, 40 minutes  
b. 380 minutes  
c. 5 hours, 40 minutes  
d. 320 minutes  
e. 4 hours, 50 minutes  
f. 280 minutes

- 3.14 a. 3  
b. 1  
c. 2

- 3.15 a

$$6 - 2 = 4$$

$$55 - 45 = 10$$

- 3.16 b

8:40 to 11:40 = 3 hours  
11:40 to 12:00 = 20 minutes



3.17 c

2:30 to 5:30 = 3 hours  
5:30 to 6:15 = 45 minutes

3.18 c

8:30 to 12:30 = 4 hours  
12:30 to 2:30 = 2 hours  
2:30 to 3:20 = 50 minutes

3.19 d

10:15 + 4 hours = 14:15, or 2:15;  
2:15 + 10 minutes = 2:25

3.20 b

9:15 to 12:15 = 3 hours  
12:15 to 12:35 = 20 minutes  
This is the longest elapsed time  
by 5 minutes.

3.21 d

11:45 + 3 = 2:45  
2:45 + :15 = 3:00

3.22 c

10:30 to 1:30 = 3 hours  
3 hours - 15 minutes =  
2 hours, 45 minutes

- 3.23 a. 3 hours, 0 minutes  
b. 3 hours, 45 minutes  
c. 3 hours, 15 minutes  
d. 6 hours, 30 minutes  
e. 4 hours, 15 minutes  
f. 4 hours, 45 minutes  
g. 3 hours, 45 minutes

- 3.24 a. 1  
b. 3  
c. 2

3.25 c

$35^{\circ}\text{C} = 95^{\circ}\text{F}$

3.26 b

$5^{\circ}\text{C} = 41^{\circ}\text{F}$

3.27 c

$38.3^{\circ}\text{C} = 101^{\circ}\text{F}$

3.28 a, c

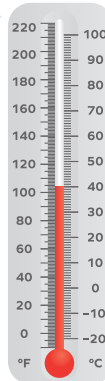
$35^{\circ}\text{C} = 95^{\circ}\text{F}$

3.29 b, d

$50^{\circ}\text{C} = 122^{\circ}\text{F}$ , so it would be very hot and  
over  $100^{\circ}\text{F}$ .

- 3.30 a.  $50^{\circ}\text{F}$ ,  $10^{\circ}\text{C}$   
b.  $70^{\circ}\text{F}$ ,  $21^{\circ}\text{C}$   
c.  $40^{\circ}\text{F}$ ,  $5^{\circ}\text{C}$   
d.  $185^{\circ}\text{F}$ ,  $85^{\circ}\text{C}$

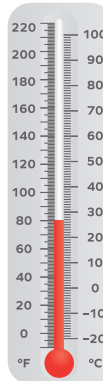
3.31 a.



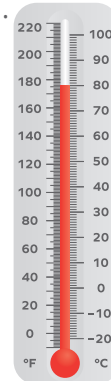
b.



c.



d.



3.32 c

$(1.8)(10) + 32 = 18 + 32 = 50$

3.33 d

$(1.8)(45) + 32 = 81 + 32 = 113$

3.34 a

$(0.55)(132 - 32) = (0.55)(100) = 55$

- 3.35 a. 4  
b. 6  
c. 8  
d. 7  
e. 2  
f. 10  
g. 1  
h. 3  
i. 9  
j. 5

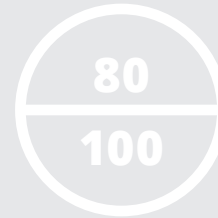
# MATH 506

## ALTERNATE TEST

NAME \_\_\_\_\_

DATE \_\_\_\_\_

SCORE \_\_\_\_\_



Each numbered question = 5 points

Answer *true* or *false*.

1. \_\_\_\_\_ The number 9 has four factors.
2. \_\_\_\_\_ The fraction  $\frac{4}{15}$  is in simplest form.

Circle the correct letter and answer.

3.  $\frac{5}{5}$  is \_\_\_\_\_ fraction.  
a. an improper      b. a proper
4. 6 is a \_\_\_\_\_ of 18.  
a. multiple      b. factor
5. 6 is a \_\_\_\_\_ number.  
a. composite      b. prime
6. Round  $5\frac{6}{13}$  to the nearest whole number.  
a. 4      b. 5      c. 6      d. 7
7. Compare using  $<$ ,  $>$ , or  $=$ .  $4\frac{2}{6}$  \_\_\_\_\_  $4\frac{5}{15}$   
a.  $<$       b.  $>$       c.  $=$
8. What is the prime factorization of 52?  
a.  $2 \times 23$       b.  $2 \times 26$       c.  $4 \times 13$       d.  $2 \times 2 \times 13$
9. Which of the following statements are true?  
I. The GCF of 4 and 18 is 2.  
II. The LCM of 4 and 18 is 36.  
III. 4 and 18 are both composite numbers.  
a. I and II      b. I and III      c. II and III      d. They are all true.

**3.13**

- a. 2
- b. 3
- c. 6
- d. 1
- e. 5
- f. 4

**3.14** model, pencil, paper**3.15** b**3.16** c**3.17** d

$$\frac{1 \times 2}{8 \times 3} = \frac{2}{24} = \frac{1}{12}$$

**3.18**

a

$$\frac{4 \times 2}{9 \times 3} = \frac{8}{27}$$

**3.19**

c

$$\frac{5 \times 7}{7 \times 10} = \frac{35}{70} = \frac{1}{2}$$

**3.20**

a

$$\frac{3 \times 1}{4 \times 2} = \frac{3}{8}$$

**3.21**

b

$$\frac{2 \times 1}{3 \times 3} = \frac{2}{9}$$

**3.22**

a

$$\frac{5 \times 5}{8 \times 6} = \frac{25}{48}$$

**3.23**a.  $\frac{1}{3}$ 

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

b.  $\frac{7}{44}$ 

$$\frac{7 \times 1}{11 \times 4} = \frac{7}{44}$$

c.  $\frac{1}{18}$ 

$$\frac{1 \times 1}{3 \times 6} = \frac{1}{18}$$

**3.24**

- a. 3
- b. 6
- c. 1
- d. 2
- e. 4
- f. 5

**3.25** multiplied, multiplied**3.26**

- a. 2
- b. 1
- c. 4
- d. 3

**3.27** a**3.28** c**3.29** b

$$1\frac{2}{3} \times \frac{4}{5} = \frac{5}{3} \times \frac{4}{5} = \frac{4}{3} = 1\frac{1}{3}$$

**3.30** c**3.31** b**3.32** c**3.33** b**3.34** c

Because 6 is being multiplied by a value that is greater than 1, the product will be greater than 6.

**3.35** d**3.36** b

$$\frac{11}{6} \times \frac{2}{1} = \frac{22}{6} = 3\frac{4}{6} = 3\frac{2}{3}$$

**3.37**a.  $\frac{22}{35}$ 

$$\frac{11}{7} \times \frac{2}{5} = \frac{22}{35}$$

b.  $9\frac{1}{6}$ 

$$\frac{5}{2} \times \frac{11}{3} = \frac{55}{6} = 9\frac{1}{6}$$

c.  $5\frac{1}{4}$ 

$$\frac{7}{1} \times \frac{3}{4} = \frac{21}{4} = 5\frac{1}{4}$$

d. 25

$$\frac{25}{6} \times \frac{6}{1} = \frac{150}{6} = 25$$

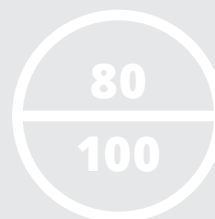
# MATH 508

## ALTERNATE TEST

NAME \_\_\_\_\_

DATE \_\_\_\_\_

SCORE \_\_\_\_\_



Each numbered question = 5 points

Circle the correct letter and answer.

1. Which example would be likely to give a valid conclusion?
  - a. Eight students are surveyed about their favorite movie.
  - b. People are asked, "Do you like yucky vegetarian food, or juicy burgers?"
  - c. Six swimmers are asked if they like the water.
  - d. The first thirty people to leave the library are asked their age.

2. How many people were in the survey shown in this frequency table?

- a. 4
- b. 20
- c. 26
- d. 30

AGE OF PEOPLE AT BILLY'S BIRTHDAY PARTY		
AGE	TALLIES	FREQUENCY
5		2
6		11
7		6
8		1

3. What is the range for the following set of data? 5, 7, 12, 14, 16, 16
  - a. 11
  - b. 12
  - c. 13
  - d. 14
4. What is the median for the following set of data? 5, 7, 12, 14, 16, 16
  - a. 11.7
  - b. 12
  - c. 13
  - d. 14

11. According to the Store Sales graph, how would you describe the store sales overall?

a. increasing  
b. decreasing  
c. staying the same  
d. can't be determined

12. According to the graph from Question 11, where is the greatest change in the store sales?

a. from week 1 to week 2  
b. from week 2 to week 3  
c. from week 3 to week 4  
d. from week 5 to week 6

13. What type of graph would have the title "Typical Height Jumped?"

a. line graph                      b. bar graph                      c. line plot                      d. pictograph

14. If you had a set of data pairs that show the amount of rain for each month of the year, what type of graph should you use?

a. line graph                      b. bar graph                      c. line plot                      d. pictograph

15. What is the likelihood that you would randomly draw the 3 of hearts from a deck of 52 playing cards?

a. likely                      b. equally likely as unlikely  
c. unlikely                      d. certain

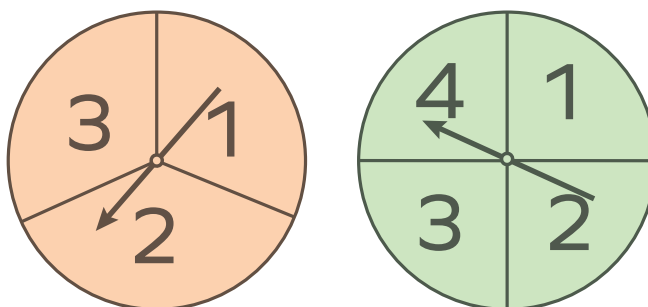
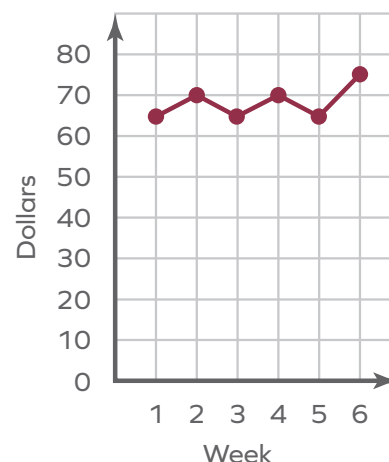
16. In a bag there are eight red marbles, twelve blue marbles, and four green marbles. What is the probability that you will draw a green marble?

a.  $\frac{1}{12}$                       b.  $\frac{1}{6}$                       c.  $\frac{1}{4}$                       d.  $\frac{1}{3}$

17. If the two spinners below are spun, what is the probability that the numbers will add to more than 7?

a.  $\frac{1}{12}$   
b.  $\frac{1}{6}$   
c.  $\frac{1}{4}$   
d. 0

Store Sales



# ANSWER KEYS

## SECTION 1

- 1.1 a. 10  
b. 5  
c. 2  
d. 3  
e. 7  
f. 9  
g. 8  
h. 6  
i. 1  
j. 4
- 1.2 b, c

Planes are two-dimensional.

- 1.3 a, d

Three letters or a number are needed to name the angle.

- 1.4 a, d

Parallel lines do not intersect.

- 1.5 a, b

Two points on a line can define a ray or a line segment.

- 1.6 a, c, d

The correct notation must be used and only connected points can be considered.

- 1.7 b, c, d

The correct notation must be used and only connected points can be considered.

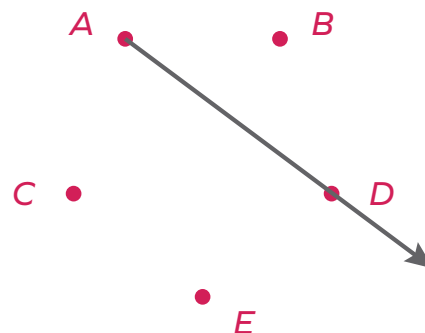
- 1.8 b, c, d

The correct notation must be used and only connected points can be considered.

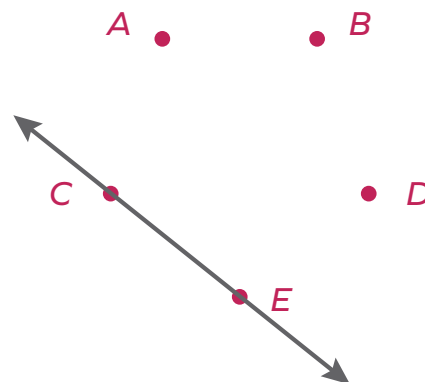
- 1.9 b, d

The correct notation must be used and only connected points can be considered.

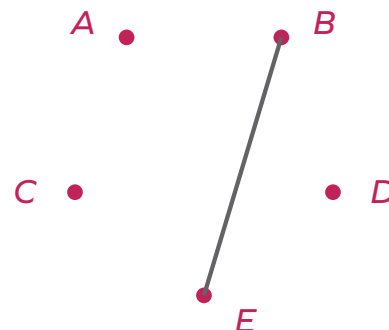
1.10



1.11



1.12



# MATH 510

## ALTERNATE TEST

NAME \_\_\_\_\_

DATE \_\_\_\_\_

SCORE \_\_\_\_\_



Each numbered question = 5 points

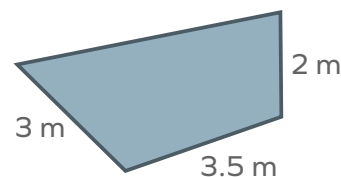
Circle the correct letter and answer.

1. Which quadrilateral with side lengths shown will have a perimeter of 22 meters?

a. 4 m, 5 m, 4 m, 5 m  
b. 4 m, 6 m, 7 m, 5 m  
c. 5 m, 3 m, 9 m, 4 m  
d. 5 m, 5 m, 5 m, 5 m

2. The perimeter of this quadrilateral is 14 meters. What is the length of the unlabeled side?

a. 5 m  
b. 5.5 m  
c. 6 m  
d. 6.5 m

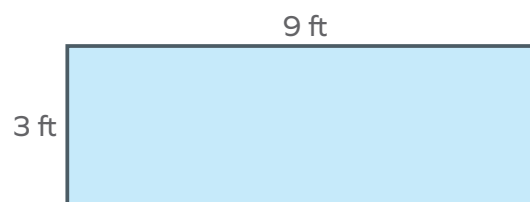


3. What is the perimeter of a regular heptagon with side length 4 inches?

a. 24 inches      b. 28 inches      c. 32 inches      d. 36 inches

4. What is the perimeter of this rectangle?

a. 12 feet  
b. 24 feet  
c. 27 feet  
d. 36 feet



5. The perimeter of a regular decagon is 70 m. How long is each side?

a. 5 m      b. 6 m      c. 7 m      d. 10 m



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