

Napa Valley College
Language/Developmental Studies Division
Testing and Tutoring Center

Algebra Readiness Diagnostic Practice Test

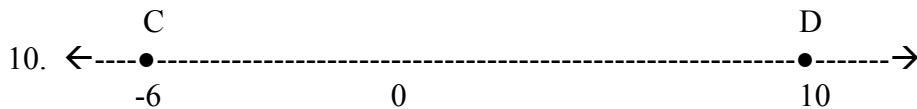
Math 10

Math 55

Math 90

Math 96

Busi 90



On the number line shown above, what number represents the point half the distance between points C and D?

- A) 0 B) 2 C) 4 D) 16



B. Fractions

1. $\frac{3}{4} \times 24 =$

- A) 72 B) 18
C) 12 D) 96

2. $\frac{5}{12} \times 3 =$

- A) $\frac{5}{4}$ B) $\frac{8}{16}$
C) $\frac{2}{3}$ D) $\frac{1}{3}$

3. $(1\frac{1}{16} + \frac{1}{16}) - \frac{9}{8} =$

- A) 0 B) 8
C) -1 D) $3\frac{1}{2}$

4. In the first 18 games of the season, a baseball player was up to bat 8 times and hit all 8 times. If she continues at the same rate, how many hits will she have after 45 games?

- A) 20 B) 101 C) 45 D) 62

5. For which of the following values of y is $\frac{54}{Y}$ a whole number?

- I =6
II =0
III =9

- A) II only B) I and II only
C) II and III only D) I and III only
E) III only

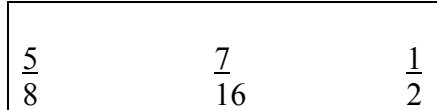
6. $\frac{6 \times 8}{5 \times 3^2} =$

- A) $1\frac{1}{15}$ B) $1\frac{1}{10}$ C) 1 D) $\frac{1}{45}$

$$7. \frac{3 + \frac{1}{2}}{2 + \frac{3}{4}} =$$

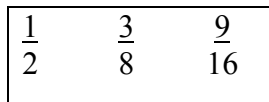
- A) $3 \frac{4}{5}$ B) $2 \frac{5}{12}$ C) $1 \frac{1}{2}$ D) $1 \frac{3}{11}$

8. Which of the fractions shown below is the largest?



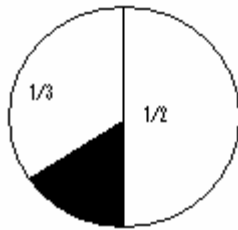
- A) All three fractions are equal B) $\frac{5}{8}$ C) $\frac{1}{2}$ D) $\frac{7}{16}$

9. Of the fractions shown below, which of the following represents the ordering from the smallest to the largest?



- A) $\frac{9}{16}, \frac{1}{2}, \frac{3}{8}$ B) $\frac{3}{8}, \frac{1}{2}, \frac{9}{16}$ C) $\frac{1}{2}, \frac{9}{16}, \frac{3}{8}$ D) $\frac{3}{8}, \frac{9}{16}, \frac{1}{2}$

10. In the figure shown below, what fractional part of the circle is shaded?



- A) $\frac{5}{9}$ B) $\frac{7}{9}$ C) $\frac{16}{6}$ D) $\frac{1}{6}$

11. $\frac{2}{6} + \frac{3}{4} =$ A) $\frac{5}{10}$ B) $\frac{3}{10}$ C) $\frac{5}{6}$ D) $\frac{13}{12}$



C. Decimals

1. $0.148 + 637 + 93.96 =$

- A) 76.108 B) 94.781
C) 731.108 D) 10.217

2. $721.75 - 68.247 =$

- A) 39.28 B) 365.305
C) 653.503 D) 635.053

3. What is 45% of 500?

- A) 22.5 B) 225
C) 2,250 D) 22,500

4. $\frac{0.03645}{2.7} =$

- A) 001.35 B) 00013.5
C) 00.135 D) 0.0135

5. Dawn and Terry each earn \$15.00 per hour at part time jobs. If on a certain day Terry worked three and one-half hours and Dawn worked four and three-quarter hours, what is the total amount of their earnings that day?

- A) \$123.75 B) \$50.50 C) \$120.00 D) \$65.75

6. $16\% =$

- A) 1.6 B) 0.16
C) 16.0 D) 0.016

7. $3\% =$

- A) 0.03 B) 0.3
C) 3.0 D) 30.0

8. $(2.3)^2 - (0.3)^2$

- A) 2 B) 4.09
C) 5.2 D) 1

9. It takes 16 minutes for a certain bacteria population to double. If there are 6,140,276 bacteria in this population at 9:15am, what is the best estimate, in millions, of the number of bacteria at 9:47am on the same day?

- A) 25 B) 30 C) 64 D) 12

10. Which of the following numbers best approximates $3,076 - 307.6$?

- A) 300 B) 3000 C) 30 D) 30,000

11. The price of a television was increased from \$240.00 to \$300.00. What is the percent increase in the price of the television?

- A) 25% B) 10% C) 30% D) 85%

12. $\frac{1}{4} + 1.2 =$

- A) $\frac{13}{9}$ B) $\frac{13}{11}$ C) $\frac{47}{20}$ D) $\frac{29}{20}$

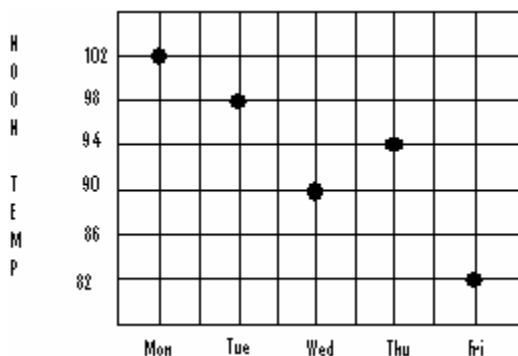
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D. Exponents and Square Roots

1. If $x = 6$, then $2 + 5x =$ A) 13 B) 32 C) 58 D) 3
2. The product of a number n and 12 is 36. Which of the following equations represents this statement?
 A) $12n = 36$ B) $\frac{n}{12} = 36$ C) $n - 12 = 36$ D) $n + 12 = 36$
3. In the formula $d = r \times t$, d is the distance traveled and t is the time traveled. If $d = 63$ and $t = 9$, then $r =$
 A) 7 B) 567 C) $\frac{1}{7}$ D) 52
4. If $2t = s + 4$ and $t = 3$, then $s =$ A) 2 B) 10 C) -2 D) 1
5. If $\sqrt{b} = 5$, then $b =$ A) 2.5 B) 25 C) 10 D) 52
6. $\frac{4c}{8c} =$ A) $\frac{1}{2b}$ B) $\frac{1}{4}$ C) $\frac{1}{2}$ D) $\frac{1}{2c}$
7. $5(3 - x) =$ A) $8 - x$ B) $15x - 3x$ C) $15 - 5x$ D) $15 - x$
8. $3^5 - 3^{10} =$ 9. $(4 \times 8^6) \times (5 \times 8^7) =$
 A) 3^{15} B) 3^{50} A) 20×8^{42} B) 9×8^{13}
 C) 9 D) 9 C) 20×8^{13} D) 9×16^{13}
10. $(5 \times 10^6) + (7 \times 10^6) =$ 11. $\sqrt{3^2 + 4^2} =$
 A) 1.2×10^7 B) 1.2×10^6 A) 144 B) 25
 C) 1.2×10^{13} D) 1.2×10^{12} C) 7 D) 5

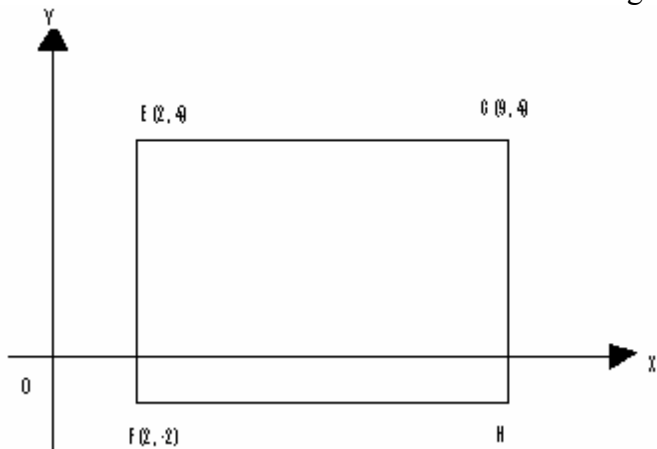
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E. Geometry

1. The temperature at noon on each of five successive days is plotted on the graph shown below. Which day had the greatest decrease in noon temperature from that of the previous day?



- A) Wednesday B) Thursday C) Friday D) Monday

2. What are the coordinates of vertex H of rectangle EFGH shown in the figure below?

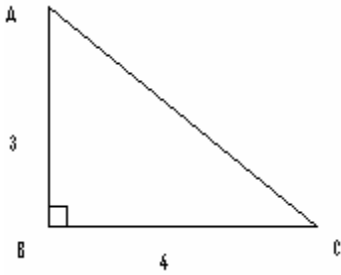


- A) (-2, 9) B) (-2, 4) C) (9, 2) D) (9, -2)

3. The perimeter of a rectangle is 36. If the length is 12, what is the area?

- A) 12 B) 18 C) 24 D) 72

4. In the right $\triangle ABC$ shown below, what is the length of AC?

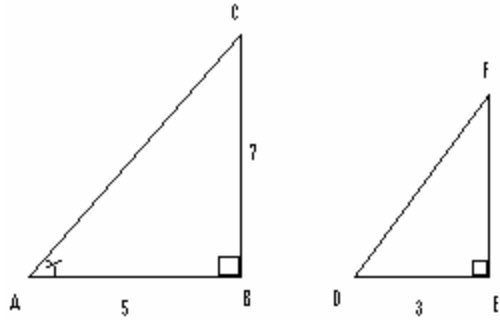


- A) 7 B) 12 C) 5 D) 25

5. What is the diameter of a circle whose area is 64π ?

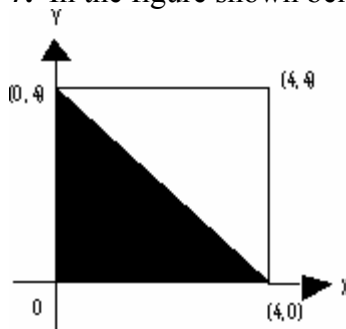
- A) 16π B) 64 C) 8π D) 16

6. Triangles ABC and DEF shown below are similar. What is the length of EF?



- A) $\frac{21}{5}$ B) $\frac{35}{3}$ C) $\frac{15}{7}$ D) 5

7. In the figure shown below, what is the area of the shaded region?



- A) 16 B) 8 C) 12 D) 32

Answer Key for Pre-Algebra Diagnostic Practice Test

A. Integers

1. C
2. B
3. C
4. D
5. C
6. C
7. A
8. D
9. C
10. B

B. Fractions

1. B
2. A
3. A
4. A
5. D
6. A
7. D
8. B
9. B
10. D
11. D

C. Decimals

1. C
2. C
3. B
4. D
5. A
6. B
7. A
8. C
9. A
10. B
11. A
12. D

D. Exponents, Square Roots

1. B
2. A
3. A
4. A
5. B
6. C
7. C
8. A
9. C
10. A
11. D

E. Geometry

1. C
2. D
3. D
4. C
5. D
6. A
7. B