ALGEBRA READINESS DIAGNOSTIC PRACTICE TEST

Directions: Work the problems, then check your answers on the last page.

A. Integers

1. Donna's heart beats 60 times a minute. At this rate, how many times does her heart beat in one and one half hours?

A) 3600   B) 1800   C) 5400   D) 6300

2. $2 - 8 + 3 - 6 =$ A) -14   B) -9
                                  C) 1   D) 5

3. Linda drove 325 miles on a trip. At the end of the trip, the total mileage on the car's odometer read 4013. What was the mileage of the car at the beginning of Linda's trip?

A) 4988   B) 3363   C) 3688   D) 4338

4. On the number line, the distance between -5 and 7 is:

A) 2   B) -2   C) 7   D) 12

5. The least common multiple of 14 and 12 is

A) 168   B) 42   C) 84   D) 24

6. The prime factorization of 20 is:

A) 2 x 10   B) 5 x 4   C) 2 x 2 x 5   D) 2 x 5 x 5

7. What number divided by -6 gives 18 as the result?

A) -108   B) -3   C) 3   D) 108

8. -8 [(-5)(-4) +6]   9. $10 - (12 - 14)$

A) 208   B) -11   A) -2   B) -16
C) 24   D) -208   C) 12   D) 36

C   D
10. ←----●---●-------→
         -6   0   10

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

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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   A) II only   B) I and II only
II =0   C) II and III only   D) I and III only
III =9   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) $\frac{1}{45}$

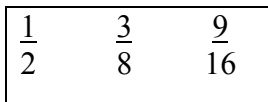**7.** $\dfrac{3 + \dfrac{1}{2}}{2 + \dfrac{3}{4}} =$

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

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

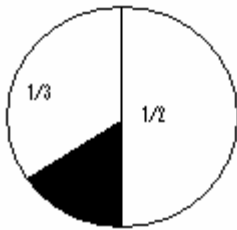| $\dfrac{5}{8}$	$\dfrac{7}{16}$	$\dfrac{1}{2}$
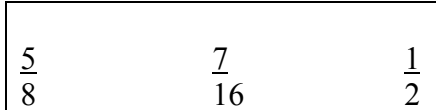
A) All three fractions are equal   B) $\dfrac{5}{8}$ C) $\dfrac{1}{2}$ D) $\dfrac{7}{16}$

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

$\dfrac{1}{2}$	$\dfrac{3}{8}$	$\dfrac{9}{16}$

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

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

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

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

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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. $\dfrac{0.03645}{2.7} =$

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. $\dfrac{1}{4} + 1.2 =$

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