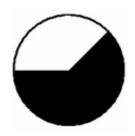
## **Fractions and Square Roots**

1. What is the improper fraction or mixed number represented by the following figure?



- A. 2 1/3
- B. 7/6
- C. 25/8
- D. 11/3
- E. 11/9

2. Which of the following fractions most correctly depicts the shaded area of the circle below?



- A. 3/8
- B. 5/8
- C. 3/4
- D. 5/11
- E. 1/2

3. Which of the following is not a fraction equivalent to 3/4?
A. 6/8
B. 9/12
C. 12/18
D. 21/28
E. 27/36
4. Solve: 0.25 + 0.65
A. 1/2
B. 9/10
C. 4/7
D. 2/9
E. 5/16
5. Which of the following statements is false?
A. In the fraction ½, one is the numerator.
B. When 4.89 is rounded to the ones place, the answer is 5.
C. Ten thousandths place is located 5 places to the right of the decimal
D. 7/6 is described as an improper fraction.
E. 33 1/3 % is equivalent to 1/3
6. Find the square of 25/9

A. 5/3
B. 3/5
C. 7 58/81
D. 15/2
E. 650/81
7. Sarah needs to make a cake and some cookies. The cake requires 3/8 cup of sugar and the cookies require 3/5 cup of sugar. Sarah has 15/16 cups of sugar. Does she have enough sugar, or how much more does she need?
A. She has enough sugar.
B. She needs 1/8 of a cup of sugar.
C. She needs 3/80 of a cup of sugar.
D. She needs 4/19 of a cup of sugar.
E. She needs 1/9 of a cup of sugar.
8. There are 8 ounces in a ½ pound. How many ounces are in 7 3/4 lbs?
A. 12 ounces
B. 86 ounces
C. 119 ounces
D. 124 ounces
E. 138 ounces
9. If the value of x and y in the following fraction are both tripled, how does the value of the fraction change?

XZ
Υ
A. increases by half
B. decreases by half
C. triples
D. doubles
E. remains the same
10. Which of the following fractions is the equivalent of 0.5%
A. 1/20
B. 1/200
C. 1/2000
D. 1/5
E. 1/500
11. Which of these numbers is a factor of 21
A. 2
B. 5
C. 7
D. 42
E. 44

12. If the average person drinks 8, (8oz) glasses of water per day, a person who drinks 12.8 oz of water after a morning exercise session has consumed what fraction of the daily average?
A. 1/3
B. 1/5
C. 1/7
D. 1/9
E. 1/10
13. You need 4/5 cups of water for a recipe. You accidentally put 1/3 cups into the mixing bowl with the dry ingredients. How much more water in cups do you need to add?
A. 1/2 cups
B. 2/3 cups
C. 1/15 cups
D. 7/15 cups
E. 7/16 cups
14. ¾ - ½ =
A. 1⁄4
B. 1/3
C. ½
D. 2/3
E. 2/5

15. 7 ½ - 5 3/8 =
A. 1 ½
B. 1 2/3
C. 2 1/8
D. 3 1/4
E. 3
Answers & Explanations
1. C: The figure shows 2 completely shaded circles, plus 1/8 more than 4/8 shaded on the third circle. Thus, the figure represents the mixed number, 2 5/8.
2. B: The circle shows 1/8 more than 4/8, which represents 5/8.
3. C: The fraction, 12/18, is not equivalent to the fraction, 3/4, since the fractions do not represent the same ratio. The denominator for Choice C would need to be 16, for the two fractions to be equivalent.
4. B: The sum equals 0.90, which may also be written as 9/10.
5. C: The ten thousandths place is located 4 places to the right of the decimal.
6. C: The square of the given fraction may be written as 252/92, or 625/81, which equals 7 58/81.
7. C: The sum of 3/8 cup of sugar and 3/5 cup of sugar is 39/40 cup of sugar. 39/40 cup of sugar can be compared to 15/16 cup of sugar by finding a common denominator. Doing so shows that Sarah will need 78/80 cup of sugar, but only has 75/80 cup of sugar. Thus, she needs 3/80 cup of sugar.

- 8. D: The following proportion may be used to find the solution: 8/0.5=x/7.75. Solving for x gives x = 124. Thus, there are 124 ounces in 7 3/4 pounds.
- 9. E: The value does not change because the 3 in the numerator and the 3 in the denominator cancel. 3XZ/3Y=XZ/Y.
- 10. B: 0.5% = 0.005, which may be written as 5/1000, which reduces to 1/200.
- 11. C: The number, 7, is a factor of 21, since 7 will divide evenly into 21.
- 12. B: The fraction of the daily consumption may be represented as 12.8/64, or 0.2. This decimal represents 1/5. Thus, a consumption of 12.8 ounces of water is 1/5 of the daily average consumption.
- 13. D: The amount you need to add is equal to the difference of 4/5 and 1/3. Finding a common denominator allows you to write 12/15-5/15, which equals 7/15. Thus, you need to add 7/15 cup of water.
- 14. A: The difference may be written as 3/4-2/4, which equals 1/4.
- 15. C: The difference may be written as 7 4/8-5 3/8, which equals 2 1/8.

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