# Workout JW

1. _____ Three shaded circles are inside of the larger un-shaded circle. The two smallest shaded circles are congruent, each with a radius that is 1/6 that of the large un-shaded circle. The largest shaded circle has a radius that is twice the smallest circles. What fraction of the area of the largest circle is not shaded?

2. _____ Express the decimal $0.\overline{783}$ as a common fraction in simplest form.

3. _____ cm² Find the area of triangle ABC if angle C is 60 degrees, AC = 15cm and BC = 37cm. Express your answer as a decimal rounded to the nearest whole number.

4. _____ What is the greatest common factor of 16! and 2^{16}?

5. _$_____ Bob has a total of 55 coins: nickels, dimes, pennies and quarters. There are more quarters than dimes, more dimes than nickels, and more nickels than pennies. He has 17 more dimes than pennies, and 2 more quarters than nickels. How much are his coins worth all together?

6. _____ yrs This year, Zed's age in years is twice Bob's. Next year, Joe's age in years will be twice Bob's. Last year, Joe's age in years was twice Zed's. What is the sum of Joe, Zed, and Bob's ages in years?

7. _____ Six standard six-faced dice are rolled, and the sum (x) is calculated. What is the probability that the sum satisfies the inequality $x^2-6x<16$? Express your answer as a common fraction in simplest form.
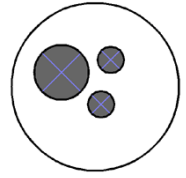
8. _____ What is the units digit of $24,153^{54321}$?

9. _____ cm The lengths in centimeters of the sides of a triangle can be represented by x, x^2, and 50. If all three lengths are integers, what is the perimeter of the triangle?

10. _____ A baseball's player's batting average is the ratio of hits to at-bats, expressed as a decimal rounded to the thousandth. Going into a game, Larry had a batting average of 0.333. After getting a hit on each of his three at-bats during the game, his batting average improved to 0.381. How many total hits did Larry have after the game?