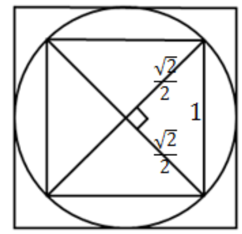
3-1. Without loss of generality, let the side-length of the smaller square be 1. The diagonals of a square divide the shape into four isosceles right triangles. As shown in the diagram, the radius of the circle is $\frac{\sqrt{2}}{2}$. The side-length of the larger square is twice of that of the radius of the circle, from which it is $\sqrt{2}$. Since the area of the larger square is 2 and the area of the smaller square is 1, their ratio is $\boxed{2:1 \text{ or } 2}$.



3-2. We have P(GM wins) = 60% and P(M does not win) = 1 – 20% = 80%. Using conditional probability, the answer is $\frac{P(\text{GM wins})}{P(\text{M does not win})} = \boxed{3/4 \text{ or } 0.75 \text{ or } 75\%}$.

3-3. In the solution, define x R y to be the remainder when x is divided by y. If $x < y$, then x R $y = 3$ implies that $x = 3$. However, y R $x = 4$ is impossible since the remainder must be strictly less than the divisor. Therefore, $x > y$, from which y R $x = 4$ implies that $y = 4$, and x R $y = 3$ implies that the minimum value of x is 7. Finally, the minimum value of $20x + 16y$ is $20(7) + 16(4) = \boxed{204}$.

3-4. Let the prices of a glove, a ball, and a helmet be x, y, and z respectively. We know that $21x + 21y = 28z$. Both sides of equation represent the amount of money I have. We want to evaluate $\frac{28z}{x+y+z}$. Let's write everything in terms of z. From $21x + 21y = 28z$, we get $x + y = \frac{4}{3}z$. Therefore, $\frac{28z}{x+y+z} = \frac{28z}{\frac{4}{3}z+z} = \frac{28z}{\frac{7}{3}z} = \boxed{12}$.

3-5. If $y = x^2 + 2x$, then $(x^2 + 2x - 1)(x^2 + 2x - 5) - 21 = (y - 1)(y - 5) - 21 = y^2 - 6y - 16 = (y - 8)(y + 2) = (x^2 + 2x - 8)(x^2 + 2x + 2) = \boxed{(x + 4)(x - 2)(x^2 + 2x + 2)}$.

3-6. In the solution, define $f_2(x) = f(f(x))$, $f_3(x) = f(f(f(x)))$, and so on. First note that $f(17) = f_2(22) = f(19) = f_2(24) = f(21) = 18$. Therefore, $f_3(17) = f_2(18) = f_3(23) = f_2(20) = f(17) = 18$ as well. Finally, $f(1) = f_2(6) = f_3(11) = f_4(16) = f_5(21) = f_4(18) = f_5(23) = f_4(20) = f_3(17) = \boxed{18}$.