Trigonometry Worksheet 6 - Answers

1. Describe the difference between the graphs of $f(x) = 5x^2$ and $g(x) = 10x^2$
   Here, we multiplied $f(x)$ by 2 to get $g(x)$, which stretches it vertically.

2. Describe the difference between $f(x) = -5x + 2$ and $g(x) = -5x$
   The graph of $f(x)$ is obtained by shifting the graph of $g(x)$ vertically up by 2 units.

3. Describe the difference between $f(x) = 4x^2 + 6$ and $g(x) = -4x^2 - 6$
   The graph of $f(x)$ is obtained by shifting the graph of $g(x)$ vertically up by 12 units.

4. Describe the difference between $f(x) = x^3$ and $g(x) = x^3 + 1$
   The graph of $g(x)$ is obtained by shifting the graph of $f(x)$ vertically up by 1 unit.

5. Is the function $x^2 + y^2 = 8$ even or odd?
   Even function.

6. Is the function $y = 2(x + 4)^2$ even or odd?
   Neither

7. How does the graph of $f(x) = x^2 + 5x$ and $g(x) = (x + 2)^2 + 5x + 10$ relate to each other?
   The graph of $g(x)$ is obtained by shifting the graph of $f(x)$ 2 units to the right.

8. How does the graph of $f(x) = \sin(x)$ and $g(x) = 0.5\sin(x)$ relate to each other?
   The graph of $g(x)$ is obtained by shrinking vertically the graph of $f(x)$ by a factor of 2.

9. How can you sketch the graph of $f(x) = 5x^2$, using the graph of $g(x) = -5x^2$.
   By flipping the graph of $g(x)$ over the x-axis.

10. How can you sketch the graph of $g(x) = (x + 2)^2 + \frac{3}{5}$, using the graph of $f(x) = -5x^2$.
    By flipping the graph of $f(x)$ over the x-axis, shrinking vertically by a factor of 5, shifting vertically up by $\frac{3}{5}$ units and shifting 2 units to the left.
