## Trigonometry Worksheet 6 - Answers

1. Describe the difference between the graphs of $f(x)=5 x^{2}$ and $g(x)=10 x^{2}$

Here, we multiplied $f(x)$ by 2 to get $g(x)$, which stretches it vertically.
2. Describe the difference between $f(x)=$ $-5 x+2$ and $g(x)=-5 x$

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

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 $f(x)=x^{2}+5 x$ and $g(x)=(x+2)^{2}+5 x+10$ 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 $f(x)=$ $5 x^{2}$, using the graph of $g(x)=-5 x^{2}$.

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 $f(x)=-5 x^{2}$.

By flipping the graph of $f(x)$ over the $x$-axis, shrinkinf vertically by a factor of 5 , shifting vertically up by $\frac{3}{5}$ units and shifting 2 units to the left.
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