Name: _____

Graphs of Tangent and Cotangent Functions

1) The left-hand column contains equations that represent transformations of $f(x)=\tan(x)$. Match the equations on the left with the description on the right of how to obtain the graph of $y=g(x)$ from the graph of f.

1) $y=\tan(x-2)$

2) $y=\tan(x)-2$

3) $y=\tan(2x)$

4) $y=\frac{1}{2}\tan(x)$

5) $y=\tan(2x-8)$

6) $y=2\tan(x)$

7) $y=\tan\left(\frac{1}{2}x\right)$

8) $y=\tan\left(\frac{x}{2}\right)-4$

9) $y=-2\tan(4x-4)$

10) $y=-\tan(x)+2$

A) Shrink horizontally by a factor of $\frac{1}{2}$

B) Reflect in the x – axis, then shift upward 2 units

C) Shift right 2 units

D) Reflect in the x – axis, stretch vertically by a factor of 2, shrink horizontally by a factor of $\frac{1}{4}$, then shift right 1 unit

E) Stretch horizontally by a factor of 2, then shift downward 4 units

F) Shrink horizontally by a factor $\frac{1}{2}$, then shift right 4 units

G) Stretch horizontally by a factor of 2

H) Shift downward 2 units

I) Stretch vertically by a factor of 2

J) Shrink vertically by a factor of $\frac{1}{2}$