Name:

Date:

School:

Facilitator:

10.06 Difference Quotients

1. Find the difference quotient for *f*(*x*) = 5 + 6*x* – *x*2

2. Find the limit for *f*(*x*) = *x*2 – 3*x*

3. Find the limit for $f\left(x\right)=\sqrt{x-1}$

4. Find the slope of the tangent line for $f\left(x\right)=\frac{1}{x-2} $at the point (3, 1)

5. Find the equation of the tangent line for *f*(*x*) = 2*x*2 + *x* – 1 at the point (–1, 0)

6. Find the average rate of change for *f*(*x*) = 5*x* – 3 on the interval [2,3]

7. Find the average rate of change for *f*(*x*) = 3*x*2 – 5*x* on the interval [1,2]

8. Find the average rate of change for $f\left(x\right)=\frac{3}{x-1}$on the interval [2,4]