## Arithmetic and Geometric Means

Arithmetic Means Example

| $x$ | 3 | 4 | 5 | 6 | 7 | 8 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $f(x)$ |  | 12 |  |  | 54 |  |

If I start with $\qquad$ and add a constant difference $\qquad$ times, I get $\qquad$ —.

Write an equation for this. Solve it to find the difference.

Fill in the missing values.
Determine the missing values for this arithmetic sequence. Use an equation to help solve the problem.

| $x$ | 5 | 6 | 7 | 8 | 9 | 10 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $f(x)$ |  | 20 |  |  |  | -16 |

Geometric Means Example

| $x$ | 3 | 4 | 5 | 6 | 7 | 8 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $f(x)$ |  | 8 |  |  | 512 |  |

If I start with ___ and multiply a constant factor and multiply a constant factor ____ times, I get $\qquad$ .

Write an equation for this. Solve it to find the factor.

Fill in the missing values.

Determine the missing values for this geometric sequence. Use an equation to help solve the problem.

| $x$ | 1 | 2 | 3 | 4 | 5 | 6 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $f(x)$ | 4 |  |  |  |  | 972 |

