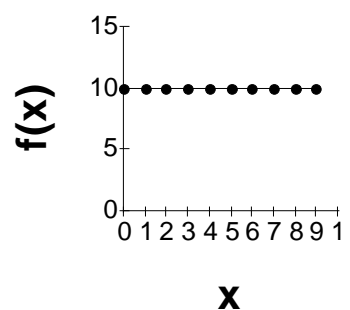
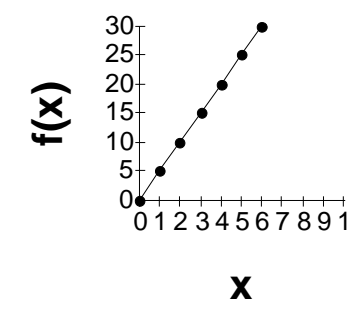
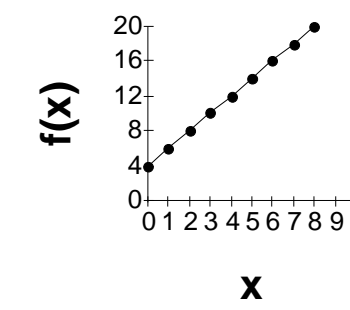
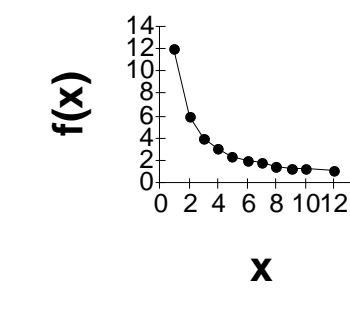
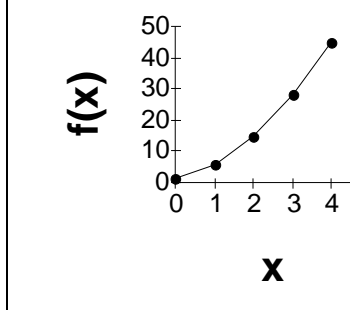


## CATEGORIES OF FUNCTIONS

	CONSTANT (OR ZERO VARIATION) FUNCTIONS	DIRECT VARIATION LINEAR FUNCTIONS	PARTIAL VARIATION LINEAR FUNCTIONS	RATIONAL (INVERSE VARIATION) FUNCTIONS	QUADRATIC (2 <sup>ND</sup> DEGREE) FUNCTIONS																																																												
<b>Characteristics</b>	<ul style="list-style-type: none"> <li>- The rate of change is <b>constant</b> and equal to 0</li> <li>- The Cartesian graph is a straight line parallel to the x-axis</li> </ul>	<ul style="list-style-type: none"> <li>- The rate of change is <b>constant</b></li> <li>- The y variable is proportional to the x variable</li> <li>- The Cartesian graph is a straight line <b>passing through the origin</b> and not parallel to an axis</li> </ul>	<ul style="list-style-type: none"> <li>- The rate of change is <b>constant</b></li> <li>- The y variable is <b>not</b> proportional to the x variable</li> <li>- The Cartesian graph is a straight line that <b>does not</b> pass through the origin and is not parallel to an axis</li> </ul>	<ul style="list-style-type: none"> <li>- The rate of change is <b>not constant</b></li> <li>- The product of the variables is <b>constant</b></li> <li>- The Cartesian graph is a curve that gradually approaches the axes</li> </ul>	<ul style="list-style-type: none"> <li>- The rate of change is <b>not constant</b></li> <li>- y is proportional to the square of x</li> <li>- The complete graph is a curve called a parabola</li> </ul>																																																												
<b>Graphs</b>																																																																	
<b>Rules</b>	$y = b$ or $f(x) = b$ where b is a constant	$y = ax$ or $f(x) = ax$ where "a" is a constant	$y = ax + b$ or $f(x) = ax + b$ where $a \neq 0$ and $b \neq 0$	$y = \frac{a}{x}$ or $f(x) = \frac{a}{x}$	$y = ax^2 + bx + c$ or $f(x) = ax^2 + bx + c$ where $a \neq 0$																																																												
<b>Tables of values</b>	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr><td>x</td><td>0</td><td>1</td><td>2</td><td>3</td><td>4</td></tr> <tr><td>y</td><td>10</td><td>10</td><td>10</td><td>10</td><td>10</td></tr> </table> $f(x) = 10$	x	0	1	2	3	4	y	10	10	10	10	10	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr><td>x</td><td>0</td><td>1</td><td>2</td><td>3</td><td>4</td></tr> <tr><td>y</td><td>0</td><td>5</td><td>10</td><td>15</td><td>20</td></tr> </table> $f(x) = 5x$	x	0	1	2	3	4	y	0	5	10	15	20	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr><td>x</td><td>0</td><td>1</td><td>2</td><td>3</td><td>4</td></tr> <tr><td>y</td><td>4</td><td>6</td><td>8</td><td>10</td><td>12</td></tr> </table> $f(x) = 2x + 4$	x	0	1	2	3	4	y	4	6	8	10	12	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr><td>x</td><td>1</td><td>2</td><td>3</td><td>4</td><td>6</td></tr> <tr><td>y</td><td>12</td><td>6</td><td>4</td><td>3</td><td>2</td></tr> </table> $f(x) = \frac{12}{x}$	x	1	2	3	4	6	y	12	6	4	3	2	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr><td>x</td><td>0</td><td>1</td><td>2</td><td>3</td><td>4</td></tr> <tr><td>y</td><td>1</td><td>6</td><td>15</td><td>28</td><td>45</td></tr> </table> $f(x) = 2x^2 + 3x + 1$	x	0	1	2	3	4	y	1	6	15	28	45
x	0	1	2	3	4																																																												
y	10	10	10	10	10																																																												
x	0	1	2	3	4																																																												
y	0	5	10	15	20																																																												
x	0	1	2	3	4																																																												
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