Proportional vs. Linear Relationships

Proportional relations; $\frac{y}{x} = k$ *or* $y = kx$**; graph passes through origin (0,0)**

Linear Relationships; y = mx + b; slope is the same; $\frac{\Delta y}{\Delta x} = m$**; graph does not pass through origin.**

Identify the following as proportional, non-proportional or linear relationships or neither.

1.

x	0	1	2	3
y	0	5	10	15

2.

x	1	2	3	4
y	5	7	9	11

3.

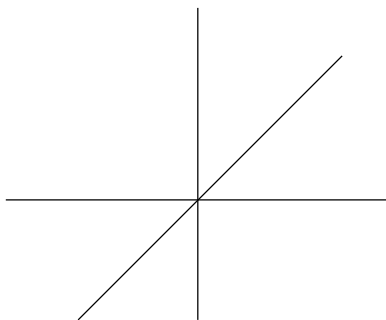| x	1	2	3	4
y	2	5	10	17

4. y = 2x + 1

5. y = 3x

6. y = x² – 1

7.   (0, 4), (1, 7), (2, 10), (3, 13)

8.   (0, 0), (1, 5), (2, 12), (3, 18)

9.

10.