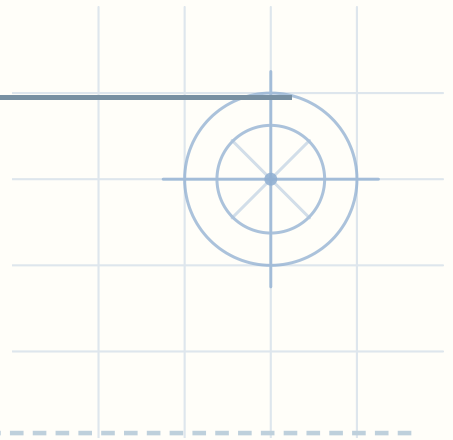


Linear or nonlinear — Equations and tables

Name: _____

Date: _____

Is each one linear or nonlinear? Circle one.



1 $y = 3x^2 + 4$ Linear / Nonlinear

2 $y = x/11 + 23$ Linear / Nonlinear

3 $y = 63$ Linear / Nonlinear

4

x	7	12	17	22
y	88	148	208	268

Linear / Nonlinear

5

x	9	11	13	15
y	6	18	54	162

Linear / Nonlinear

6 $y = 31/x$ Linear / Nonlinear



Linear or nonlinear · Equations and tables — Answer key

1. $y = 3x^2 + 4$: Nonlinear — x is squared, so the steps in y grow as x grows

2. $y = x/11 + 23$: Linear — dividing by 11 is multiplying by a number, so the steps in y stay equal

3. $y = 63$: Linear — y is always 63 whatever x does — that graph is a flat line, and flat is a slope of zero rather than no slope

4. x : 7, 12, 17, 22 y : 88, 148, 208, 268: Linear — x goes up by 5 every time and y goes up by 60 every time

5. x : 9, 11, 13, 15 y : 6, 18, 54, 162: Nonlinear — x goes up by 2 every time, but the steps in y are 12, 36, 108 — they change, so the points do not lie on a line

6. $y = 31/x$: Nonlinear — x is underneath, so doubling x halves y instead of adding the same amount again

