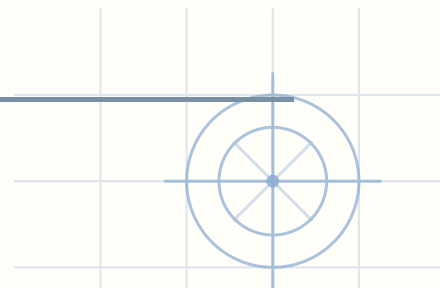


Linear or nonlinear — From the equation

Name: _____

Date: _____

(Is each equation linear or nonlinear? Circle one.



1 $y = 11x^3 + 32$ Linear / Nonlinear

2 $y = 4x^3 + 9$ Linear / Nonlinear

3 $y = 57/x$ Linear / Nonlinear

4 $y = 25/x$ Linear / Nonlinear

5 $y = x/12 + 12$ Linear / Nonlinear

6 $y = 45$ Linear / Nonlinear



Linear or nonlinear · From the equation — Answer key

1. $y = 11x^3 + 32$: Nonlinear — x is cubed, so the steps in y grow as x grows

2. $y = 4x^3 + 9$: Nonlinear — x is cubed, so the steps in y grow as x grows

3. $y = 57/x$: Nonlinear — x is underneath, so doubling x halves y instead of adding the same amount again

4. $y = 25/x$: Nonlinear — x is underneath, so doubling x halves y instead of adding the same amount again

5. $y = x/12 + 12$: Linear — dividing by 12 is multiplying by a number, so the steps in y stay equal

6. $y = 45$: Linear — y is always 45 whatever x does — that graph is a flat line, and flat is a slope of zero rather than no slope

