3.2 Introduction to Solving Equations – Part II

Later in this unit we will be solving linear equations. Before we begin solving, we need to know how to identify a linear equation. Most linear equations are first-degree equations. First-degree equations contain a variable in which the highest exponent is one.

Class Notes – State the degree of each equation. Identify the equation as linear or nonlinear.

LP#1 $x+3=10$	$3w-15=2w+3$	$y^2-36=0$	$3z+z=28$
LP#2 $x^2=25$	$10z+2=12z-1$	$100=4w^2$	$x^3=342$
LP#3 $w=13$	$y^4=16$	$x+25=40-3x$	$x^2-x=12$

Review – State the degree of each equation. Identify the equation as linear or nonlinear.

R#1 $2x-6=30$	$10=m^2-3m$
R#2 $c^4=81$	$7z-1=2z+9$
R#3 $x^3=125$	$x+8=24-x$

Homework – State the degree of each equation. Identify the equation as linear or nonlinear.

1) $6x+4=34$ **2)** $200=8w^2$ **3)** $9z+20=11z-6$ **4)** $x^3=-125$

5) $3z+8=7z-4$ **6)** $x^3=8$ **7)** $250=10w^2$ **8)** $15x+45=60$

9) $12=w^2+w$ **10)** $11x+6=28$ **11)** $3x^3=24$ **12)** $z+12=7z-6$

Synthesis

Rewrite each first-degree equation into an equivalent equation containing radical coefficients. Rewrite each second-degree equation into an equivalent equation containing fractional coefficients.

13) $6z+24=3z$ **14)** $6=0.25m^2-0.5m$ **15)** $x+21=4x-3$

16) $0.1p^2-0.5=0.4p$ **17)** $2x+0.5x=7.5$ **18)** $40=\sqrt{0.25}k^2-0.6k$