UNIT TEST **Lessons 24–35** (100 points possible)

I. Divide and check. (8 points each)

1. $X+2\overline{)\,2X^2+5X+2}$

2. $X-2\overline{)\,X^2+3X^2-9X-2}$

II. Find the factors. (5 points each)

1. $3X^2 - 12$

2. $Q^2 - R^2$

3. $2X^2 - 4X - 30$

III. Solve by factoring, and then check. (6 points each)

1. $X^2 + 5X + 16 = 10$

2. $2X^3 - 18X = 0$

IV. Using the table, convert the following measures. (4 points each)

1 mi ≈ 1.6 km	1 km ≈ .62 mi
1 oz ≈ 28 g	1 g ≈ .035 oz

1. Change 100 ounces to grams.

2. Change six kilometers to miles.

V. Write each number using scientific notation. (3 points each)

1. 456,700,000

2. .0260

VI. Solve using scientific notation. (4 points each)

1. .0003 x 4.2

2. $\frac{6,800,00}{200,000}$

VII. Simplify. (3 points each)

1. $\sqrt{196}$

2. $\sqrt{100A^2}$

3. $\sqrt{X^2+18X+81}$

VIII. Change to the base indicated. (4 points each)

1. $70_{10} =$ _____ $_7$

2. $2210_3 =$ _____ $_{10}$

IX. Simplify. (3 points each)

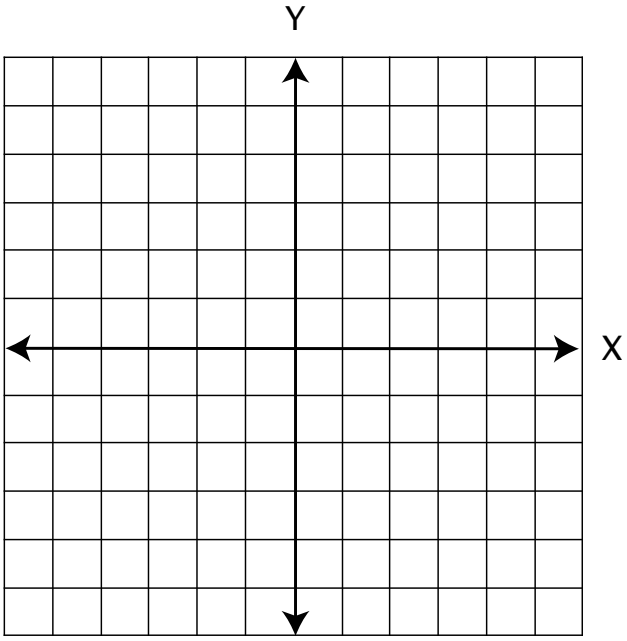
1. $16^{\frac{1}{2}}$

2. $(1{,}000)^{\frac{2}{3}}$

X. Graph the following and identify the graph as a circle, ellipse, parabola, or hyperbola. You may add more points to the chart if you wish. (6 points each)

1. $XY = -1$

X	Y
1	
-1	
$\frac{1}{2}$	
$-\frac{1}{2}$	
$\frac{1}{3}$	
$-\frac{1}{3}$	



2. $X^2 + Y^2 = 4$