

Algebra 1 Pre/Post Placement Test

Answer Key

I

1. $\left(-\frac{1}{2}\right)^2 + (ab)^0 - 3^2 = \frac{1}{4} + 1 - 9$
 $= \frac{1}{4} - 8$
 $= \frac{1}{4} - \frac{32}{4}$
 $= -\frac{31}{4} = -7\frac{3}{4}$
2. $\sqrt{16X^2} = 4X$
3. $(2^2)^3(2^2) = 4^3 \cdot 4 = 64 \cdot 4 = 256$
4. $|6 - 8| = |-2| = 2$
5. $\sqrt{X^2 + 4X + 4} = X + 2$
6. $81^{\frac{1}{2}} = 9$
7. $\frac{3X^2}{X^{-4}} + \frac{5X}{X^{-1}} = 3X^2X^4 + 5XX = 3X^6 + 5X^2$

II

1. $3X^2 - 27 = (3)(X^2 - 9) = (3)(X - 3)(X + 3)$
2. $5X^2 - 9X - 2 = (5X + 1)(X - 2)$
3. $X^3 + 5X^2 + 6X = (X)(X^2 + 5X + 6)$
 $= (X)(X + 2)(X + 3)$
4. $14Y^2 - 7Y - 42 = (7)(2Y^2 - Y - 6)$
 $= (7)(2Y + 3)(Y - 2)$

III.

1. $10^6 = 10^{(3)(x)}$
 $10^{(3)(2)} = 10^{(3)(x)}$
 $X = 2$

IV.

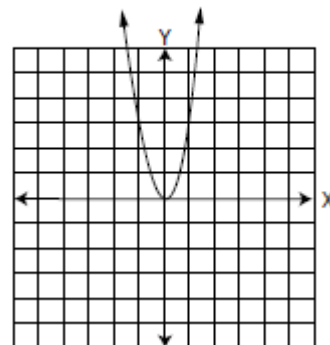
1. $3X^2 - 6X = 0$
 $(3X)(X - 2) = 0$
 $3X = 0$ $X - 2 = 0$
 $X = 0$ $X = 2$
2. $\frac{1}{6}X - \frac{1}{2} = \frac{2}{3}$
 $(30)\left(\frac{1}{6}\right)X - (30)\left(\frac{1}{2}\right) = (30)\left(\frac{2}{3}\right)$
 $\frac{30}{6}X - \frac{30}{2} = \frac{60}{3}$
 $5X - 15 = 20$
 $5X = 35$
 $X = 7$
3. $X + .25X = .4$
 $(100)(X + .25X) = .4$
 $100X + 25X = 40$
 $125X = 40$
 $X = \frac{40}{125} = \frac{8}{25}$ or .32

V.

1. parabola

X	Y
0	0
1	2
-1	2
2	8
-2	8

see graph



2. ellipse

When $X = 0$:

$$4X^2 + Y^2 = 16$$

$$4(0)^2 + Y^2 = 16$$

$$Y^2 = 16$$

$$Y = \pm 4$$

When $Y = 0$:

$$4X^2 + Y^2 = 16$$

$$4X^2 + (0)^2 = 16$$

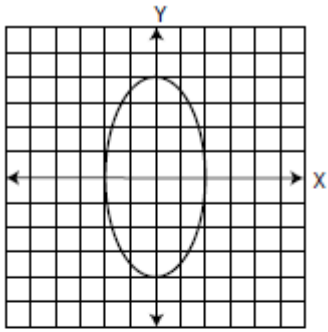
$$4X^2 = 16$$

$$X^2 = 4$$

$$X = \pm 2$$

Points: $(0, 4)$; $(0, -4)$; $(+2, 0)$; $(-2, 0)$

see graph



3. y -intercept = 1; slope = 3
see graph

