Secondary 2 Name_____ ID: 1

Module 3 Test Practice Date_____ Period____

Solve each equation.

1) $\sqrt{b^2} = \sqrt{4}$

± 2

2) $\frac{5x^2}{5} = \frac{125}{5}$

$\sqrt{x^2} = \sqrt{25}$

$x = \pm 5$

Solve each equation. Round the solutions to the nearest hundredths.

3) $7v^2 - 6 = 1$

$+6 \quad +6$

$\frac{7v^2}{7} = \frac{7}{7}$

$\sqrt{v^2} = \sqrt{1}$

$v = \pm 1$

4) $9n^2 + 3 = 52$

$-3 \quad -3$

$\frac{9n^2}{9} = \frac{49}{9}$

$\sqrt{n^2} = \sqrt{\frac{49}{9}}$

$n = \pm 7/3$

Solve each equation with the quadratic formula.

$x = \frac{-(b) \pm \sqrt{(b)^2 - 4(a)(c)}}{2a}$

5) $3b^2 - 6b - 144 = 0$

$x = \frac{-(-6) \pm \sqrt{(-6)^2 - 4(3)(-144)}}{2(3)}$

$x = \frac{6 \pm \sqrt{1764}}{6} \rightarrow \frac{6+42}{6} \quad \frac{6-42}{6}$

$= 8, -6$

6) $2p^2 + 5p - 18 = 0$

$x = \frac{-(5) \pm \sqrt{5^2 - 4(2)(-18)}}{2(2)}$

$= \frac{-5 \pm \sqrt{169}}{4} \rightarrow \frac{-5+13}{4}$ or $\frac{-5-13}{4} = -\frac{18}{4}$

$= 2$ or $-9/2$

7) $4x^2 - 8x - 15 = 6$

$x = \frac{-(-8) \pm \sqrt{(-8)^2 - 4(4)(-15)}}{2(4)}$

$x = \frac{8 \pm \sqrt{304}}{8} = 3.2$ or -1.2

8) $4n^2 + 5n + 6 = 0$

$x = \frac{-5 \pm \sqrt{5^2 - 4(4)(6)}}{2(4)}$

$x = \frac{-5 \pm \sqrt{-71}}{8} \rightarrow x = \frac{-5 + i\sqrt{71}}{8}$

Simplify.

9) $\sqrt{256x^2}$

$= 16x$

10) $\sqrt{112k}$

$4\sqrt{7k}$

11) $\sqrt{20} \cdot \sqrt{15}$

$\sqrt{300}$

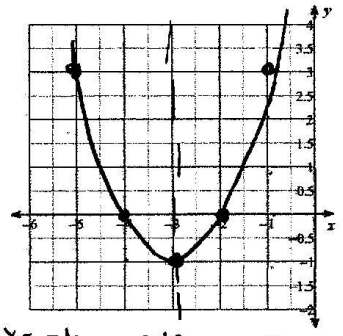
$= 10\sqrt{3}$

12) $7\sqrt{27x}$

$21\sqrt{3x}$

Sketch the graph of each function.

13) $y = x^2 + 6x + 8$

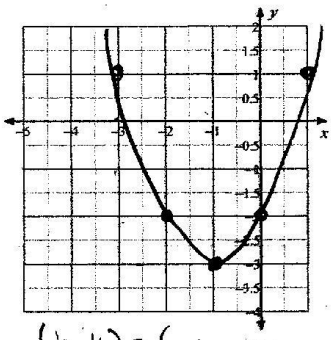


$x = \frac{-b}{2a} = \frac{-6}{2(1)} = -3$

$y = (-3)^2 + 6(-3) + 8$

$y = -1$

14) $y = (x+1)^2 - 3$



$(h,k) = (-1,-3)$

Solve each equation by factoring.

15) $m^2 + 4m - 32 = 0$

$1 \cdot 32 = 32$

$1, 32$

$2, 16$

$4, 8$

	m	$+8$
m	m^2	$8m$
-4	$-4m$	-32

$m + 8 = 0$

$m = -8$

$m - 4 = 0$

$m = 4$

16) $v^2 - 8v + 7 = 0$

7

$1, 7$

	v	-7
v	v^2	$-7v$
-1	$-1v$	$+7$

$v - 1 = 0$

$v = 1$

$v - 7 = 0$

$v = 7$

Simplify. Your answer should contain only positive exponents.

17) $2nm^4 \cdot 4mn^{-2}$

$8n^{-1}m^5 = \frac{8m^5}{n}$

18) $\frac{3x^4}{4x^2y^3} = \frac{3x^2}{4y^3}$

Write each expression in exponential form.

19) $(\sqrt[6]{v})^7$

$(v^{1/6})^7 = v^{7/6}$

Write each expression in radical form.

20) $(4x)^{\frac{4}{3}}$ $\sqrt[3]{(4x)^4}$

