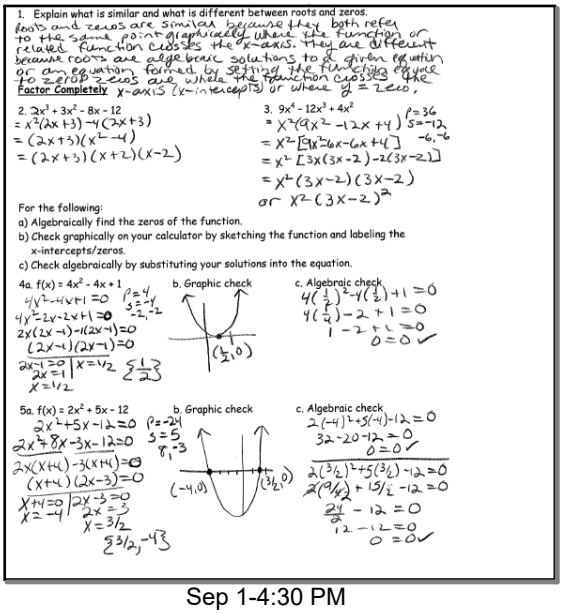
1-9 HW Answer Key

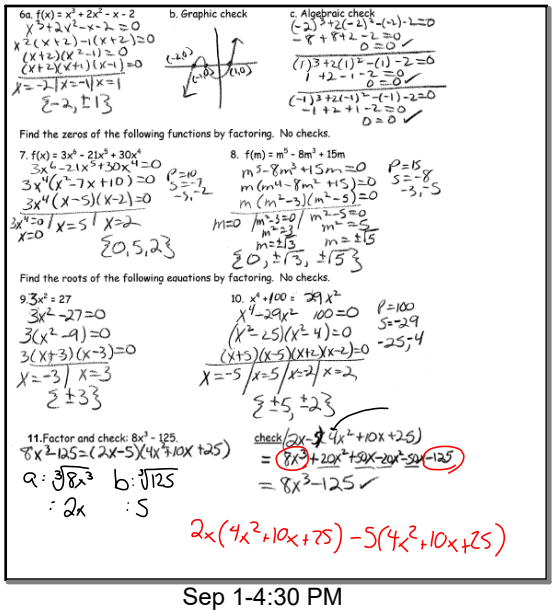
2. $(2x+3)(x-2)(x+2)$
3. $x^2(3x-2)(3x-2)$
4. $\{1/2\}$
5. $\{3/2, -4\}$
6. $\{-2, \pm 1\}$
7. $\{0, 5, 2\}$
8. $\{0, \pm\sqrt{3}, \pm\sqrt{5}\}$
9. $\{\pm 3\}$
10. $\{\pm 2, \pm 5\}$
11. $(2x-5)(4x^2+10x+25)$

1. Roots and zeros are similar in that they both refer to the same point graphically where the function or related function crosses the x-axis. They are different in that roots are algebraic solutions to a given equation or an equation formed by setting the function equal to zero. Zeros are where the function crosses the x-axis (x-intercepts) or where the y value is zero.

Sep 20-4:40 PM



Sep 1-4:30 PM



Sep 1-4:30 PM

1-10: Simplify Square Roots And Find The Discriminant

No calculator use. Complete and get familiar with this table.

Integer	Square	Integer	Square
1	1	11	121
2	4	12	144
3	9	13	169
4	16	14	196
5	25	15	225
6	36	16	256
7	49	17	289
8	64	20	400
9	81	25	625
10	100	30	900

Aug 27-1:49 PM

$\sqrt[n]{x}$

n → Index
x → radicand
$\sqrt{}$ → radical

Properties (true for all indices)

$\sqrt{ab}=\sqrt{a}\cdot\sqrt{b}$

$\sqrt{\frac{a}{b}}=\frac{\sqrt{a}}{\sqrt{b}}$

Aug 27-1:50 PM

SIMPLIFY SQUARE ROOTS

Write each of the following numbers in simplest radical form:

1. $\sqrt{24}=\sqrt{4}\sqrt{6}=2\sqrt{6}$
2. $\sqrt{16}=4$
3. $\frac{\sqrt{54}}{\sqrt{2}}=\sqrt{\frac{54}{2}}=\sqrt{27}=\sqrt{9}\sqrt{3}=3\sqrt{3}$
4. $\sqrt{\frac{1}{225}}=\frac{1}{15}$
5. $\sqrt{\frac{72}{24}}=\sqrt{3}$
6. $\frac{2}{3}\sqrt{27}=\frac{2}{3}(3\sqrt{3})=2\sqrt{3}$

Aug 27-2:03 PM

7. $\sqrt{21}$: $\sqrt{21}$

8. $-2\sqrt{48}$ $4 = \frac{48}{x}$
: $-2\sqrt{16}\sqrt{3}$
: $-2(4)\sqrt{3}$: $-8\sqrt{3}$

9. $5\sqrt{16}$
: 5(4)
: 20

10. $\sqrt{\frac{81}{16}}$: $\frac{9}{4}$

Aug 27-1:51 PM

FIND THE DISCRIMINANT

We know that standard form of a quadratic equation is $ax^2+bx+c=0$

The discriminant is a number formed from standard form of a quadratic equation and equal to b^2-4ac.

Find the discriminant.

11. $x^2 - 3x + 2 = 0$
a: 1 : $(-3)^2-4(1)(2)$
b: -3 : 9-8 : 1
c: 2

12. $3x^2 - 5x + 1 = 0$
a: 3 b^2-4ac
b: -5 $(-5)^2-4(3)(1)$
c: 1 25-12=13

Aug 27-1:51 PM

13. $4x^2 - 4x = -1$
$4x^2-4x+1=0$
a: 4 b^2-4ac
b: -4 $(-4)^2-4(4)(1)$
c: 1 : 0

14. $x^2 = 7$
$x^2-7=0$
a: 1
b: 0 $0^2-4(1)(-7)$
c: -7 = 28

15. $x^2 - 6x + 9 = 0$

16. $2x^2 + 4x = 1$

Aug 27-1:59 PM

Simplify the square root of each discriminant in the previous section.

11. $\sqrt{1}$: 1

12. $\sqrt{13}$: $\sqrt{13}$

13. $\sqrt{0}$: 0

14. $\sqrt{28}$: $\sqrt{4}\sqrt{7}$
: $2\sqrt{7}$

15.

16.

Aug 27-1:59 PM

Sep 18-4:44 PM