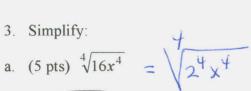
Do your own work.

1. (5 pts) Simplify $\sqrt{-16} = 1$

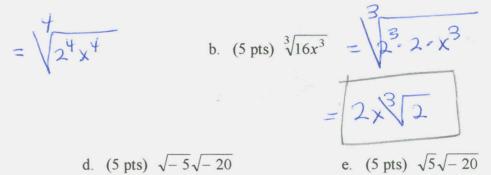


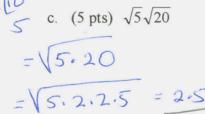
2. (5 pts) Use a calculator to approximate $\sqrt{29}$ to three decimal places.

5.385



a.
$$(5 \text{ pts}) \sqrt[4]{16x^4} = \sqrt{2}$$





$$= \sqrt{5.20} = 2.5\sqrt{1} = 2.5\sqrt{1}$$

$$= \sqrt{5.2.2.5} = 2.5\sqrt{1} = 2.5\sqrt{1}$$

$$= \sqrt{5.20}$$

$$= \sqrt{10}$$

4. Solve each equation by the square root property. For full credit, show the absolute value steps. Leave final answers in simplified radical form.

3.27 a. (5 pts)
$$x^2 - 27 =$$
3.9
$$x^2 = 27$$

$$|x| = \sqrt{27}$$

$$x = \pm \sqrt{27}$$

$$x = \pm 3\sqrt{3}$$

a. (5 pts)
$$x^2 - 27 = 0$$

b. (5 pts) $(x - 7)^2 = 45$
 $x^2 = 27$
 $|x| = \sqrt{27}$
 $|x| = \sqrt{27}$
 $|x| = \pm \sqrt{27}$
 $|x| = 27 \pm 3 \sqrt{5}$
 $|x| = 7 \pm 3 \sqrt{5}$
 $|x| = 7 \pm 3 \sqrt{5}$
 $|x| = 7 \pm 3 \sqrt{5}$

c.
$$(5 \text{ pts}) (x-7)^2 = -45$$

 $| x-7 | = \sqrt{-45}$
 $| x-7 = \pm i \sqrt{45}$
 $| x = 7 \pm 3i \sqrt{5}$

2 128 3. Simplify.

2 114

a.
$$(5 \text{ pts}) \frac{-4 \pm \sqrt{28}}{4}$$

b. $(5 \text{ pts}) \frac{-4 \pm \sqrt{-28}}{4}$

$$= -4 \pm 2\sqrt{7} = 2(-2 \pm \sqrt{7})$$

$$= -2 \pm \sqrt{7}$$

$$= -2 \pm \sqrt{7}$$

$$\frac{-4 \pm \sqrt{-28}}{4}$$

$$\frac{-2 \pm \sqrt{7}}{2}$$

Bonus (Next quiz material)

6. Solve by completing the square: $x^2 + 18x - 2 = 0$

$$x^{2}+18x = 2$$

 $x^{2}+18x+9^{2}=2+81$
 $(x+9)^{2}=83$
 $x+9=\pm\sqrt{83}$

x=-9±183

7. Use the discriminant to determine the number and type of solutions of the quadratic equation. Then solve by any of the three methods.

-2 (83

i.
$$(4 \text{ pts}) x^2 + 18x - 2 = 0$$

 $2 = 1/b = 18/c = -2$

b24ac=1824(1)(-2) = 324+8 = 332

2 distinct real roots

iii. (4 pts)
$$x^2 - 5x - 6 = 0$$

FACTORS. 2 RATIONAL ZENCES.

$$(x-6)(x+1) = 0$$

 5^{2} 42c=0 v. (4 pts) $9x^{2}-30x+25=0$ one real $(3x)^{2}-30x+5^{2}=0$ neot (rational) $(3x+5)^{2}=0$ $x=-\frac{5}{3}$

$$\sqrt{28} = 2i\sqrt{7}$$
by previous
$$(4 \text{ pts}) \ x^2 + 2x + 18 = 0$$

a=1, b=2, c=18

2 distinct nomeal zeros

$$x = \frac{-2 \pm 2i\sqrt{R}}{2} = \frac{2(-1\pm i\sqrt{R})}{2}$$

iv. $(4 \text{ pts}) 3x^2 - 5x + 2 = 0$

$$(4 \text{ pts}) \ 3x^2 - 5x + 2 = 0$$

b2-42c=(-5)2-4(3)(2)

FACTORS 2 national

$$x = 1$$
 or $x = 6 = \frac{3}{3} = x$