

# Quiz Review

1) Simplify:  $-\sqrt{32}$   
 $i \cdot \sqrt{32}$     $2\sqrt{32}$   
 $4i\sqrt{2}$     $\frac{2\sqrt{2}}{2}$   
 $\frac{2\sqrt{2}}{2}$

2) Simplify:  $\sqrt[3]{6x^7}$   
 $6x^3\sqrt{x}$

3)  $3x^2 - 30x + 75 = 0$  Complete the Square to write  
 $3x^2 - 30x = -75$  in vertex form  
 $3(x^2 - 10x + 25) = -75 + 3 \cdot 25$   
 $3(x - 5)^2 = 0$   
 $y = 3(x - 5)^2$

4) Rewrite with exponents & Simplify  $\sqrt[4]{9}$   
 $9^{-1/4}$

5) Rewrite with exponents & Simplify  $\sqrt[6]{13^5}$   
 $13^{5/6}$

6) Solve  $x^2 - 8x = -5$   
 $x^2 - 8x + 5 = 0$  Always get them = 0  
to start!

$$\begin{aligned}
 x^2 - 8x &= -5 \\
 x^2 - 8x + 16 &= -5 + 16 \\
 (x-4)^2 &= 11 \\
 x-4 &= \pm\sqrt{11} \\
 x &= 4 \pm \sqrt{11}
 \end{aligned}$$

7) Rewrite w/ exponents  $15\sqrt{x}$

$$15x^{1/2}$$

8) Rewrite w/ radicals + simplify  $(3x^4y^{-2})^{-1/2}$

$$\begin{aligned}
 (3x^4y^{-2})^{-1/2} &= 3^{-1/2} \cdot x^{-2} \cdot y^1 = \frac{1}{\sqrt{3x^2}} = \frac{y}{x\sqrt{3}}
 \end{aligned}$$

9) Simplify:  $\pm\sqrt{-20}$

$$\pm \cdot i \cdot \sqrt{20} \quad \frac{20}{5} \quad \pm 2i\sqrt{5}$$

10) Rewrite w/ Radicals  $4x^{2/5}$

$$4 \cdot \sqrt[5]{x^2} = 4\sqrt[5]{x^2}$$

11) solve:  $3x^2 + 8x + 17 = 0$

$$\begin{aligned}
 3x^2 + 8x &= -17 \\
 3(x^2 + \frac{8}{3}x + \frac{64}{36}) &= -17 + 3 \cdot \frac{64}{36} \\
 (\frac{8}{6})^2 &= \frac{64}{36} \\
 3(x + \frac{8}{6})^2 &= -\frac{35}{3}
 \end{aligned}$$

$$\sqrt[3]{(x + 8/6)^2} = \sqrt[3]{-35/9}$$
$$x + 8/6 = \pm i \sqrt[3]{35/9}$$
$$x = -8/6 \pm i \sqrt[3]{35/9}$$
$$x = -4/3 \pm i \sqrt[3]{35/9}$$