Quiz Review

ex: Simplify.

a) $\sqrt{-45}$

$-1 \quad 9 \quad 5$

$3i\sqrt{5}$

b) $\sqrt{300}$

$100 \quad 3$

$10\sqrt{3}$

c) $\sqrt{\frac{5}{7}}$

rationalize

$$\frac{\sqrt{5}}{\sqrt{7}} \cdot \frac{\sqrt{7}}{\sqrt{7}}$$

$$\frac{\sqrt{35}}{7}$$

★ d) $\sqrt{-\frac{12}{5}}$

$\sqrt{\frac{-12}{5}}$

$\frac{\sqrt{-12}}{\sqrt{5}}$

rationalize

$\frac{2i\sqrt{3}}{\sqrt{5}} \cdot \frac{\sqrt{5}}{\sqrt{5}}$

$\frac{2i\sqrt{15}}{5}$

−12

−1 4 3

e) $\frac{3}{(1-\sqrt{2})} \cdot \frac{(1+\sqrt{2})}{(1+\sqrt{2})}$ Conjugate

$$\frac{3+3\sqrt{2}}{1+\sqrt{2}-\sqrt{2}-2}$$

$$\frac{3+3\sqrt{2}}{-1}$$

$$\frac{3}{-1} + \frac{3\sqrt{2}}{-1} \rightarrow \boxed{-3-3\sqrt{2}}$$

f) $(1+2i)(3-i)$

$3-i+6i-2i^2$

$3+5i+2$

$5+5i$

Standard form of a complex # $a+bi$

$i^2=-1$

g) $(1+2i)-(3-i)$

$1+2i-3+i$

$-2+3i$

rationalize

h) $\frac{4}{5i} \cdot \frac{i}{i}$

$\frac{4i}{5i^2}$

$\frac{4i}{-5}$

rationalize

i) $\frac{3}{5\sqrt{2}} \cdot \frac{\sqrt{2}}{\sqrt{2}}$

$\frac{3\sqrt{2}}{10}$

ex: Solve by square root method.

$$3(x+4)^2 - 1 = -25$$
$$+1 \qquad +1$$

$$\frac{3(x+4)^2}{3} = \frac{-24}{3}$$

$$\sqrt{(x+4)^2} = \sqrt{-8}$$

$$|x+4| = 2i\sqrt{2}$$

$$x+4 = \pm 2i\sqrt{2}$$
$$-4 \quad -4$$

$$\boxed{x = -4 \pm 2i\sqrt{2}}$$