

November 28, 2011

*Does anyone need to take
Friday's test?*

Get out your review - Any 30

11/28 - Simplifying Radicals with Negative Radicands

$$\sqrt{-1} = i$$

$$-1 = i^2$$

$$\sqrt{-4} = 2i$$
$$= \sqrt{4} \cdot \sqrt{-1}$$

$$\sqrt{-25} = 5i$$

$$\sqrt{-24} = 2i\sqrt{6}$$
$$4 \cdot 6$$

Simplify these completely:

$$\begin{aligned}\sqrt{\frac{-1}{9}} \\&= \frac{\sqrt{-1}}{\sqrt{9}} \\&= \frac{i}{3}\end{aligned}$$

$$\begin{aligned}\sqrt{-\frac{2}{3}} \cdot \sqrt{\frac{3}{2}} \\&= i\sqrt{\frac{2}{3}} \cdot \sqrt{\frac{3}{2}} \\&= i\sqrt{\frac{\cancel{2}}{\cancel{3}} \cdot \frac{\cancel{3}}{\cancel{2}}} \\&= i\end{aligned}$$

$$\begin{aligned}\sqrt{-6} \cdot \sqrt{-12} \\&= i\sqrt{6} \cdot i\sqrt{12} \\&= i^2\sqrt{72} = -1 \cdot 6\sqrt{2} = -6\sqrt{2}\end{aligned}$$

$$\sqrt{-5^2}$$

-5 · 5

$$= \sqrt{-25}$$

$$= 5i$$

$$\sqrt{(-5)^2}$$

-5 · -5

$$= \sqrt{25}$$

$$= 5$$

$$(\sqrt{-5})^2$$

$$= (i\sqrt{5})^2$$

$$= i^2 \cdot 5$$

$$= -5$$

$$\begin{aligned}
 & \frac{\sqrt{32}}{\sqrt{-8}} \\
 &= \frac{\sqrt{32}}{i\sqrt{8}} \\
 &= \frac{\sqrt{4}}{i} \cdot \frac{i}{i} \\
 &= \frac{2i}{i^2} \\
 &= \frac{2i}{-1} \\
 &= -2i
 \end{aligned}$$

$$\begin{aligned}
 & \frac{\sqrt{18}}{i\sqrt{-3}} \\
 &= \frac{\sqrt{18}}{i^2\sqrt{3}} \\
 &= \frac{\sqrt{6}}{-1} \\
 &= -\sqrt{6}
 \end{aligned}$$

Homework:

BLUE Worksheet CNI

#1-24 all

Due Tuesday