Bellwork Hon Alg 2 Wednesday, November 30, 2016

1. Simplify this expression. $\dfrac{(12i^4)^2}{(9i^3)^2(2i^5)^3}$

Find all Exact Real solutions to each quadratic equation. Don't use the same method for each. Simplify all radicals.

2. $x^2 - 6x - 91 = 0$

3. $2(x+3)^2 + 38 = 7$

4. $3x^2 + 2x - 7 = 0$

Bellwork Hon Alg 2 Wednesday, November 30, 2016 Answers

1. Simplify this expression. $\dfrac{(12i^4)^2}{(9i^3)^2(2i^5)^3}$

$13 \div 4 = 3\ r1$

$i^{13} = i$

$$\frac{(2^2 \cdot 3 i^4)^2}{(3^2 i^3)^2 (2i^5)^3} = \frac{2^4 3^2 i^8}{3^4 i^6 \cdot 2^3 i^{15}} = \frac{2 i^8}{3^2 i^{21}} = \frac{2}{9 i^{13}}$$

$$= \frac{2}{9i}$$

Find all Exact Real solutions to each quadratic equation. Don't use the same method for each. Simplify all radicals.

2. Compl. Sq $x^2 - 6x - 91 = 0$

$x^2 - 6x + 9 = 91 + 9$

$\sqrt{(x-3)^2} = \sqrt{100}$

$x - 3 = \pm 10$

$x = -7, 13$

3. Sq Roots $2(x+3)^2 + 38 = 7$

$-38 \quad -38$

$\dfrac{2(x+3)^2}{2} = \dfrac{-31}{2}$

$\sqrt{(x+3)^2} = \sqrt{-15.5}$

No Real Sol

4. Quad Form. $3x^2 + 2x - 7 = 0$

$b^2 - 4ac = 88$

$\dfrac{-2 \pm \sqrt{88}}{6} \Rightarrow 4.42$

$\dfrac{-2 \pm 2\sqrt{22}}{6}$

$\dfrac{-1 \pm \sqrt{22}}{3}$