Complete the circled problems only for Tuesday 9/1/2015

Complex Numbers

Name _____

Date _____ Period _____

Simplify.

Example 1. $\sqrt{-9} = \pm 3i$

2. $\sqrt{-36}$

(3.) $\sqrt{-81}$

4. $\sqrt{-49}$

(5.) $\sqrt{-20}$

6. $\sqrt{-27}$

(7.) $\sqrt{-48}$

8. $\sqrt{-96}$

(9.) $\sqrt{-225}$

10. $\sqrt{-150}$

Example 11. $4i(6 + 7i) = (-28 + 24i)$

(12.) $5i(11 + 6i)$

(13.) $10i(12 + 3i)$

(14.) $9i(15 - 2i)$

Example 15. $(10 + 4i)(5 + 6i)$ $(26 + 80i)$

16. $(8 + 12i)(9 + 7i)$

(17.) $(5 - 15i)(3 + 4i)$

18. $(6 - 10i)(2 + 8i)$

(19.) $(8 - 8i)(8 + 8i)$

20. $(12 - 12i)(12 + 12i)$

Example 21. $\frac{6}{2 + i}$ $\left(\frac{12}{5} - \frac{6}{5}i\right)$

22. $\frac{7}{5 - i}$

(23.) $\frac{12i}{6 + 2i}$

24. $\frac{10i}{5 - 3i}$

(25.) $\frac{3 + 2i}{3 - 2i}$

26. $\frac{5 - 7i}{5 + 7i}$

Solve.

27. $x^2 + 16 = 0$ $\pm 4i$

28. $x^2 + 25 = 0$

29. $x^2 + 2x + 7 = 0$

30. $x^2 + 5x + 11 = 0$

31. $5x^2 + 12x + 14 = 0$

32. $6x^2 + 8x + 5 = 0$

Evaluate

(33) i^{162}

(34) i^{28}

(35) i^{101}

(36) i^{95}

Remember!

$i^1 = i$

$i^2 = -1$

$i^3 = -i$

$i^4 = +1$

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