Name _____ Date _____

LESSON 4.6

Practice A

For use with pages 275–282

Solve the equation.

1. $x^2 = -25$ $\pm 5i$

2. $x^2 = -49$ $\pm 7i$

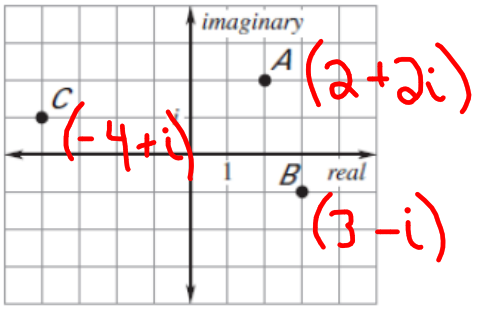
3. $x^2 + 9 = 0$ -9 -9 $\pm 3i$

4. $x^2 + 9 = 5$ $\pm 2i$

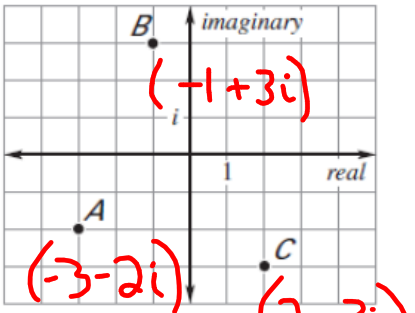
5. $x^2 - 16 = 20$ $+16$ ± 6

6. $-4x^2 + 20 = -6x^2 - 12$ $2x^2 = -32$ $\frac{2}{2}$ $\pm 4i$

Identify the complex numbers plotted in the complex plane.

7. 

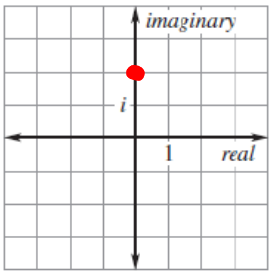
$A\ (2+2i)$ $C\ (-4+i)$ $B\ (3-i)$

8. 

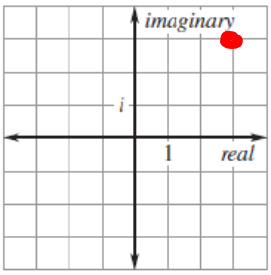
$B\ (-1+3i)$ $A\ (-3-2i)$ $C\ (2-3i)$

Plot the numbers in a complex plane.

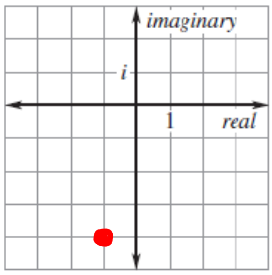
33. $2i$



34. $3 + 3i$



35. $-1 - 4i$



Write the expression as a complex number in standard form.

9. $(2 + i) + (3 + 2i)$

$5 + 3i$

10. $(3 - 2i) + (1 + 4i)$

$4 + 2i$

11. $(6 - i) - (3 + i)$

$3 - 2i$

12. $(5 + i) - (3 - 5i)$

$2 + 6i$

13. $i - (5 + 6i)$

$-5 - 5i$

14. $2i - (2 + 3i) + (1 - 8i)$

$-1 - 9i$

15. $2i(4 + i)$

$8i + 2i^2$

$-2 + 8i$

16. $4i(3 - 2i)$

$12i + 8i^2$

$8 + 12i$

Write the expression as a complex number in standard form.

17. $-3i(-5 - 3i)$

$15i + 9i^2$

$-9 + 15i$

18. $(1 + i)(2 + 5i)$

$2 + 5i + 2i + 5i^2$

$-3 + 7i$

19. $(4 - 2i)(2 - 3i)$

$8 - 12i - 4i + 6i^2$

$2 - 16i$

20. $(5 + 3i)(4 - 4i)$

$20 - 20i + 12i + 12i^2$

$32 - 8i$

21. $(-3 + 4i)(3 - i)$

$-9 + 3i + 12i + 4i^2$

$-5 + 15i$

22. $(7 - i)(-3 - 4i)$

$-21 - 28i + 3i + 4i^2$

$-25 - 25i$

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Write the expression as a complex number in standard form.

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

$\frac{6-2i}{9-3i+3i-i^2}$ $-i^2 = +1$

$\frac{6-2i}{10} = \frac{3-i}{5}$

24. $\frac{6}{2-3i}$ $\frac{(2+3i)}{(2+3i)}$

$\frac{12+18i}{4+6i-6i+9i^2}$

$\frac{12+18i}{13}$

25. $\frac{1-i}{2+2i}$ $\frac{(2-2i)}{(2-2i)}$

$\frac{2-2i-2i+2i^2}{4+4i^2}$

$\frac{-i}{2} = \frac{-4i}{8}$

26. $\frac{2-2i}{4-3i}$ $\frac{(4+3i)}{(4+3i)}$

$\frac{8+6i-8i+6i^2}{16+9i^2}$

$\frac{14-2i}{25}$