

ANSWER PRESENTATION TOOL

Algebra 2 - Student Edit

3

2 - Practice

1-45

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Show Solu

ODD

$$\begin{aligned} 1. \sqrt{-36} &= \sqrt{36} \cdot \sqrt{-1} \\ &= 6i \end{aligned}$$

$$\begin{aligned} 3. \sqrt{-18} &= \sqrt{18} \cdot \sqrt{-1} \\ &= 3i\sqrt{2} \end{aligned}$$

$$\begin{aligned} 5. 2\sqrt{-16} &= 2\sqrt{16} \cdot \sqrt{-1} \\ &= 8i \end{aligned}$$

$$\begin{aligned} 7. -4\sqrt{-32} &= -4\sqrt{32} \cdot \sqrt{-1} \\ &= -16i\sqrt{2} \end{aligned}$$

9. Set the real parts equal to each other and the imaginary parts equal to each other.

$$4x = 8 \quad 2i = yi$$

$$x = 2 \quad y = 2$$

So, $x = 2$ and $y = 2$.

11. Set the real parts equal to each other and the imaginary parts equal to each other.

$$-10x = 20 \quad 12i = 3yi$$

$$x = -2 \quad y = 4$$

So, $x = -2$ and $y = 4$.

13. Set the real parts equal to each other and the imaginary parts equal to each other.

$$2x = 14 \quad -yi = 12i$$

$$x = 7 \quad y = -12$$

So, $x = 7$ and $y = -12$.

15. Set the real parts equal to each other and the imaginary parts equal to each other.

$$54 = 9x \quad -\frac{1}{7}yi = -4i$$

$$x = 6 \quad y = 28$$

So, $x = 6$ and $y = 28$.

$$\begin{aligned} 17. (6 - i) + (7 + 3i) &= (6 + 7) + (-1 + 3)i \\ &= 13 + 2i \end{aligned}$$

$$\begin{aligned} 19. (12 + 4i) - (3 - 7i) &= (12 - 3) + (4 + 7)i \\ &= 9 + 11i \end{aligned}$$

$$\begin{aligned} 21. (12 - 3i) + (7 + 3i) &= (12 + 7) + (-3 + 3)i \\ &= 19 \end{aligned}$$

$$\begin{aligned} 23. 7 - (3 + 4i) + 6i &= (7 - 3) + (-4 + 6)i \\ &= 4 + 2i \end{aligned}$$

$$\begin{aligned} 25. -10 + (6 - 5i) - 9i &= (-10 + 6) + (-5 - 9)i \\ &= -4 - 14i \end{aligned}$$

$$\begin{aligned} 27. \text{ a. } \sqrt{-9} + \sqrt{-4} - \sqrt{16} &= 3i + 2i - 4 \\ &= -4 + 5i \end{aligned}$$

$$\begin{aligned} \text{ b. } \sqrt{-16} + \sqrt{8} + \sqrt{-36} &= 4i + 2\sqrt{2} + 6i \\ &= 2\sqrt{2} + 10i \end{aligned}$$

$$\begin{aligned} 29. 3i(-5 + i) &= -15i + 3i^2 \\ &= -15i + 3(-1) \\ &= -3 - 15i \end{aligned}$$

$$\begin{aligned} 31. (3 - 2i)(4 + i) &= 12 + 3i - 8i - 2i^2 \\ &= 12 - 5i - 2(-1) \\ &= 14 - 5i \end{aligned}$$

$$\begin{aligned} 33. (5 - 2i)(-2 - 3i) &= -10 - 15i + 4i + 6i^2 \\ &= -10 - 11i + 6(-1) \\ &= -10 - 11i - 6 \\ &= -16 - 11i \end{aligned}$$

$$\begin{aligned} 35. (3 - 6i)^2 &= (3 - 6i)(3 - 6i) \\ &= 9 - 18i - 18i + 36i^2 \\ &= 9 - 36i + 36(-1) \\ &= -27 - 36i \end{aligned}$$

37. i^2 was not simplified.

$$\begin{aligned}(3 + 2i)(5 - i) &= 15 - 3i + 10i - 2i^2 \\ &= 15 + 7i - 2(-1) \\ &= 17 + 7i\end{aligned}$$

39. The conjugate of $1 - i$ is $1 + i$.

$$\begin{aligned}(1 - i)(1 + i) &= 1 + i - i - i^2 \\ &= 1 - (-1) \\ &= 1 + 1 \\ &= 2\end{aligned}$$

41. The conjugate of $4 + 2i$ is $4 - 2i$.

$$\begin{aligned}(4 + 2i)(4 - 2i) &= 16 - 8i + 8i - 4i^2 \\ &= 16 - 4(-1) \\ &= 16 + 4 \\ &= 20\end{aligned}$$

43. The conjugate of $-2 + 2i$ is $-2 - 2i$.

$$\begin{aligned}(-2 + 2i)(-2 - 2i) &= 4 + 4i - 4i - 4i^2 \\ &= 4 - 4(-1) \\ &= 4 + 4 \\ &= 8\end{aligned}$$

45. The conjugate of $-3 - 5i$ is $-3 + 5i$.

$$\begin{aligned}(-3 - 5i)(-3 + 5i) &= 9 - 15i + 15i - 25i^2 \\ &= 9 - 25(-1) \\ &= 9 + 25 \\ &= 34\end{aligned}$$