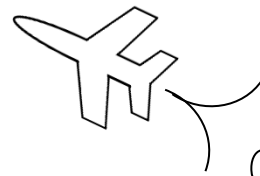


MAth on the Fly!



NAME: _____ DATE: _____

Multiplying and Dividing Complex Numbers

Simplify each expression.

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

2. $3i \cdot 2 \cdot 5i$

3. $-6i(-4 + 3i)$

4. $(1 - 2i)^2$

5. $(7 + 3i)(7 - 3i)$

6. $(-5 + i)(4 - 5i)$

7. $i(2 + 4i)(1 + 2i)$

8. $(3 + 3i)^2$

Use complex conjugates to rationalize each denominator.
Write answers in the form $a + bi$.

9. $\frac{4}{i}$

10. $\frac{1}{5i}$

11. $\frac{2}{-i}$

12. $\frac{1}{2 + i}$

13. $\frac{2}{1 - i}$

14. $\frac{1}{1 + 3i}$

SOLUTIONS

1. $7 + 10i$

2. -30

3. $18 + 24i$

4. $-3 - 4i$

5. 58

6. $-15 + 29i$

7. $-8 - 6i$

8. $18i$

9. $-4i$

10. $-\frac{i}{5}$ or $-\frac{1}{5}i$

11. $2i$

12. $\frac{2}{5} - \frac{1}{5}i$

13. $1 + i$

14. $\frac{1}{10} - \frac{3}{10}i$