

## Math 3 Advanced

## 6.1 Practice Problems with KEY

Combine and simplify polynomial expressions.

1.  $(6xy - 4x^2 + 10y) - (-3x^2 - 10y + 6xy)$

2.  $(-3r^2t + 8rt^2 - 9r^2t^2) - (-11r^2t - 7rt^2 + 5r^2t^2)$

3.  $(y^3 - 2y - 4) + (-y^4 - y^3 + 3y^2)$

4.  $(-3w^2 + w^2y - 4y^2) + (10w^2 - 3wy^2 + 4y^2)$

5.  $(8a^4 - 12a^2b^2 - 7b^4) - (a^4 - 8a^2b^2 - 11b^4)$

6.  $(-9a^2 + 8a^3 - 11a) - (9a^3 - 12a + a^2)$

7.  $(-14k^2m + 9km - km^2) - (16k^2m - 4km + km^2)$

8.  $(-5x^3 - 4x^2y^2 + 11y^3) - (10x^3 + 3x^2y^2 - 3y^3)$

9.  $(-c^5 + 3c^3 - 7c) - (c^5 - 3c^3 + 8c)$

10.  $(4hk - hk^2 - 3k^2) + (7hk^2 + 2h^2k + k^2)$

11.  $(4by + 7b^2 - 10y^2) + (3b - 3by - 8b^2)$

12.  $(2a^2b + 4ab - ab^2) + (-5a^2 - 2a^2b - 3ab^2)$

13.  $(a^2b - 9a + 5b) + (-2ab + 3a^2b - 5b)$

14.  $(-k^4 - 6k^3 + 9k) + (k^5 + k^4 + 2k^3)$

15.  $(2b^2y + by + by^2) - (b^2y - 2by - by^2)$

16.  $(-5by^2 + 3b^2y - 5y) + (-2by^2 - 5by + 7y)$

**Answer List**

- |                             |                                  |
|-----------------------------|----------------------------------|
| 1. $-x^2 + 20y$             | 2. $8r^2t + 15rt^2 - 14r^2t^2$   |
| 3. $-y^4 + 3y^2 - 2y - 4$   | 4. $7w^2 + w^2y - 3wy^2$         |
| 5. $7a^4 - 4a^2b^2 + 4b^4$  | 6. $-a^3 - 10a^2 + a$            |
| 7. $-30k^2m + 13km - 2km^2$ | 8. $-15c^3 - 7x^2y^2 + 14y^3$    |
| 9. $-2c^5 + 6c^3 - 15c$     | 10. $6hk^2 + 2h^2k + 4hk - 2k^2$ |
| 11. $by - b^2 + 3b - 10y^2$ | 12. $-5a^2 + 4ab - 4ab^2$        |
| 13. $4a^2b - 2ab - 9a$      | 14. $k^5 - 4k^3 + 9k$            |
| 15. $b^2y + 3by + 2by^2$    | 16. $-7by^2 + 3b^2y - 5by + 2y$  |