Activity 1.2.5: Factoring Perfect Square Trinomials

Total points = 31

Answers

1. $16x^2 - 24xy + 9y^2$ ✓
   $= (4x)^2 - 2(4x)(3y) + (3y)^2$ ✓
   $= (4x - 3y)^2$ ✓
2. $4x^2 + 20x + 25$ ✓
   $= (2x)^2 + 2(2x)(5) + (5)^2$ ✓
   $= (2x + 5)^2$ ✓
3. $49a^2 - 84ab + 36b^2$ ✓
   $= (7a)^2 - 2(7a)(6b) + (6b)^2$ ✓
   $= (7a - 6b)^2$ ✓
4. $121m^4 + 66m^2n + 9n^2$ ✓
   $= (11m^2)^2 + 2(11m^2)(3n) + (3n)^2$ ✓
   $= (11m^2 + 3n)^2$ ✓
5. $64a^2 - 32ab + 4b^2$ ✓
   $= 4(16a^2 - 8ab + b^2)$ ✓
   $= 4[(4a)^2 - 2(4a)(b) + (b)^2]$ ✓
   $= 4(4a - b)^2$ ✓
6. $4x^4y^2 - 12x^2yz^3 + 9z^6$ ✓
   $= (2x^2)^2 - 2(2x^2)(3z^3) + (3z^3)^2$ ✓
   $= (2x^2y - 3z^3)^2$ ✓
7. $9x^2y^2 + 30xyz^2 + 25z^4$ ✓
   $= (3xy)^2 + 2(3xy)(5z^2) + (5z^2)^2$ ✓
   $= (3xy + 5z^2)^2$ ✓
8. $16x^4 - 24x^2y + 9y^2$ ✓
   $= (4x^2)^2 - 2(4x^2)(3y) + (3y)^2$ ✓
   $= (4x^2 - 3y)^2$ ✓
9. $36x^2 - 84xy^3 + 49y^6$ ✓
   $= (6x)^2 - 2(6x)(7y^3) + (7y^3)^2$ ✓
   $= (6x - 7y^3)^2$ ✓
10. $4x^2 + 28x + 49$ ✓
    $= (2x)^2 + 2(2x)(7) + (7)^2$ ✓
    $= (2x + 7)^2$ ✓

Typeset by Jonathan Rufo Bacolod using LaTeX