

p. 534 #6-34

$$\textcircled{6} \quad 24m^2 + 4m^3 = \boxed{4m^2(6+m)}$$

$$\textcircled{7} \quad 9x^5 - 12x = \boxed{3x(3x^4 - 4)}$$

$$\textcircled{8} \quad -2r^4 - 6 = \boxed{-2(r^4 + 3)}$$

$$\textcircled{9} \quad 3(c-5) + 4c(c-5) = \boxed{(c-5)(3+4c)}$$

$$\begin{aligned} \textcircled{10} \quad 10x^3 + 4x - 25x^2 - 10 &= 2x(5x^2 + 2) - 5(5x^2 + 2) \\ &= \boxed{(5x^2 + 2)(2x - 5)} \end{aligned}$$

\* not \*  
in  
homework  
\*

$$\begin{aligned} \textcircled{11} \quad 4y^3 - 4y^2 - 3 + 3y &= 4y^3 - 4y^2 + 3y - 3 \\ &= 4y^2(y-1) + 3(y-1) \\ &= \boxed{(y-1)(4y^2 + 3)} \end{aligned}$$

$$\textcircled{12} \quad -5t^2 + 50t + 5 = \boxed{-5(t^2 - 10t - 1)}$$

$$\textcircled{13} \quad x^2 + 6x + 5 = \boxed{(x+5)(x+1)}$$

$$\textcircled{14} \quad x^2 - 4x - 21 = \boxed{(x-7)(x+3)}$$

$$\textcircled{15} \quad x^2 - 8x + 15 = \boxed{(x-5)(x-3)}$$

$$\textcircled{16} \quad 2x^2 + 9x + 7 = \boxed{(2x+7)(x+1)}$$

$$\textcircled{17} \quad 2x^2 + 9x - 18 = \boxed{(2x-3)(x+6)}$$

$$\begin{aligned} \textcircled{18} \quad -3x^2 - 2x + 8 &= -(3x^2 + 2x - 8) \\ &= \boxed{-(3x-4)(x+2)} \end{aligned}$$

$$(19) a^2 + 14a + 49 = (a+7)(a+7) = \boxed{(a+7)^2}$$

$$(20) \text{ (Not a perfect square trinomial) } 2x^2 + 10x + 25$$

$$(21) 9t^2 - 6t + 1 = (3t-1)(3t-1) = \boxed{(3t-1)^2}$$

$$(22) b^2 - 16 = \boxed{(b-4)(b+4)}$$

$$(23) 25y^2 - 10 \text{ (Not a difference of squares)}$$

$$(24) 9a^2 - b^{10} = \boxed{(3a - b^5)(3a + b^5)}$$

$$(25) 9x^2 + 30x + 25 = (3x+5)(3x+5)$$

$$\text{side} = \boxed{3x+5}$$

$$\text{perimeter} = 4(3x+5) = \boxed{12x+20}$$

$$\text{when } x=4, P = 12(4)+20 = \boxed{68 \text{ feet}}$$

$$(26) (6x-3)(x+5) \text{ (Not a difference of squares) } \boxed{3(2x-1)(x+5)}$$

$$(27) (v^5+10)(v^5-10) \text{ (Not a difference of squares) } \boxed{\text{completely factored}}$$

$$(28) (2b+3)(3b-2) \text{ (Not a difference of squares) } \boxed{\text{completely factored}}$$

$$(29) 8x^3 + 72x^2 + 160x = 8x(x^2 + 9x + 20) = \boxed{8x(x+5)(x+4)}$$

$$(30) 3x^5 - 27x^3 = 3x^3(x^2 - 9) = \boxed{3x^3(x-3)(x+3)}$$

$$(31) 8x^3 + 64x^2 - 20x - 160 = 8x^2(x+8) - 20(x+8) = \boxed{(x+8)(8x^2-20)}$$

$$(32) cd^4 - c^7d^6 = cd^4(d^2 - c^6) = \boxed{cd^4(d-c^3)(d+c^3)} = 4(x+8)(2x^2-5)$$

$$(33) 100x^2 - 80x + 16 = 4(25x^2 - 20x + 4) = 4(5x-2)(5x-2) \\ = \boxed{4(5x-2)^2}$$

$$(34) 7m^8 - 7 = 7(m^8 - 1) = 7(m^4 - 1)(m^4 + 1) = 7(m^2 - 1)(m^2 + 1)(m^4 + 1) \\ = \boxed{7(m-1)(m+1)(m^2+1)(m^4+1)}$$