

17.  $35x^5 + 21x^4 + 7x^3$

18.  $-44x^8 - 8x^7 - 36x^6 - 4x^5$

19.  $-10x^3 + 23x^2 - 24x + 18$

20.  $-2x^3 - 11x^2 - 23x - 24$

21.  $x^4 - 5x^3 - 3x^2 + 22x + 20$

22.  $-12x^4 - 10x^3 + 3x^2 + 3x + 2$

23.  $3x^5 - 6x^4 - 6x^3 + 25x^2 - 23x + 7$

24.  $4x^6 - 8x^5 + 10x^4 - 8x^3 - 38x^2 - 8x$

25. The negative was not distributed through the entire second set of parenthesis;

$$\begin{aligned}(x^2 - 3x + 4) - (x^3 + 7x - 2) &= x^2 - 3x + 4 - x^3 - 7x + 2 \\ &= -x^3 + x^2 - 10x + 6\end{aligned}$$

26. The exponent cannot be distributed through a binomial. The three binomials must be multiplied;

$$(2x - 7)^3 = 8x^3 - 84x^2 + 294x - 343$$

27.  $x^3 + 3x^2 - 10x - 24$

28.  $x^3 - 9x^2 + 8x + 60$

29.  $12x^3 - 29x^2 + 7x + 6$

30.  $6x^3 + 11x^2 - 26x - 40$

31.  $-24x^3 + 86x^2 - 57x - 20$

32.  $30x^3 - 19x^2 - 14x + 8$

33.  $(a + b)(a - b) = a^2 - ab + ab - b^2 = a^2 - b^2$ ;

$$\begin{aligned}\text{Sample answer: } 24 \cdot 16 &= (20 + 4)(20 - 4) \\ &= 20^2 - 4^2 \\ &= 400 - 16 \\ &= 384\end{aligned}$$

34.  $31 \cdot 29$  can be found using:  $(30 + 1)(30 - 1) = 30^2 - 1^2$

$$\begin{aligned}&= 900 - 1 \\ &= 899\end{aligned}$$