5. A: $8^{-2} \cdot 8^{-2} = 8^{-2+(-2)} = 8^{-4}$

6. C: $7^{-5} \div 7^3 = 7^{-5-3} = 7^{-8}$

7. E: $X^8 \div X^2 = X^{8-2} = X^6$

8. A: $X^{-2}X^{-3} = X^{-2+(-3)} = X^{-5} = \dfrac{1}{X^5}$

9. B: $X^0 = 1$;
Any number raised to the 0 power equals 1.

10. E: $X^{-2}Y^6X^{-3}Y = X^{-2+(-3)}Y^{6+1} = X^{-5}Y^7$

11. B: $A^{-1}A^{-8}B^7B^2 = A^{-1+(-8)}B^{7+2} = A^{-9}B^9$

12. E: $\dfrac{B^4B^2}{B^{-3}} = B^4B^2B^3 = B^{4+2+3} = B^9$

13. A: $\dfrac{P^3N^{-2}}{N^2P^4} = P^3N^{-2}N^{-2}P^{-4} = P^{3+(-4)}N^{-2+(-2)} = P^{-1}N^{-4}$

14. D: $\left(9^2\right)^5 = 9^{2 \cdot 5} = 9^{10}$

15. C: $\left(X^A\right)^B = X^{AB}$

Test 20

1. A: equation is a specific kind of polynomial called a trinomial

2. D:
$$\begin{array}{r} X^2 + 3X + 2 \\ + \ X^2 + 4X + 5 \\ \hline 2X^2 + 7X + 7 \end{array}$$

3. A:
$$\begin{array}{r} X^2 + X + 10 \\ + \ X^2 - 2X + \ 4 \\ \hline 2X^2 - \ X + 14 \end{array}$$

4. E:
$$\begin{array}{r} X^2 + 8X + 6 \\ + \ X^2 - 3X - 1 \\ \hline 2X^2 + 5X + 5 \end{array}$$

5. E :
$$\begin{array}{r} X^2 - 5X - 2 \\ + \ X^2 - 4X - 3 \\ \hline 2X^2 - 9X - 5 \end{array}$$

6. C:
$$\begin{array}{r} 2X + 3 \\ + \ 4X - 5 \\ \hline 6X - 2 \end{array}$$

7. B:
$$\begin{array}{r} 2X^2 - 9X + 5 \\ + \ X^2 + 4X - 1 \\ \hline 3X^2 - 5X + 4 \end{array}$$

8. C:
$$\begin{array}{r} 4X + 3 \\ \times \ X + 1 \\ \hline 4X + 3 \\ 4X^2 + 3X \\ \hline 4X^2 + 7X + 3 \end{array}$$

9. B:
$$\begin{array}{r} X + 3 \\ \times \ X + 2 \\ \hline 2X + 6 \\ X^2 + 3X \\ \hline X^2 + 5X + 6 \end{array}$$

10. A:
$$\begin{array}{r} X + 4 \\ \times \ X - 2 \\ \hline -2X - 8 \\ X^2 + 4X \\ \hline X^2 + 2X - 8 \end{array}$$

11. C:
$$\begin{array}{r} X + 1 \\ \times \ X + 5 \\ \hline 5X + 5 \\ X^2 + \ X \\ \hline X^2 + 6X + 5 \end{array}$$

12. D:
$$\begin{array}{r} X - 3 \\ \times \ X - 6 \\ \hline -6X + 18 \\ X^2 - 3X \\ \hline X^2 - 9X + 18 \end{array}$$

13. B: Multiplying the two first terms:
$$7X \cdot X = 7X^2$$

14. B: Multiplying the two first terms:
$$2X \cdot X = 2X^2$$

15. B: trinomial

Test 21

1. E:
$$\begin{array}{r} X + \ A \\ \times \ X + \ B \\ \hline BX + AB \\ X^2 \qquad + AX \\ \hline X^2 + (A+B)X + AB \end{array}$$

2. B: $(A+B)X$

3. B: $(X+1)(X+2)$

4. E: $(X+3)(X+5)$

5. B: $(X+6)(X+6)$