

1. D
2. B
3. D.
4. C.
5. B
6. C
7. D
8. C
9. A
10. D
11. $X = 30$
12. $X = 9.4, X = -16.4$
13. $-9x^2 - 11x + 30$
14. $X(X+8)$
15. 40
16. $4x^3 + 2x^2 - 6x - 7$
17. $2\sqrt{x+3} + 6$
18. -0.5
19. $\frac{15}{8}$
20. $0.5x^2 + 0.5$

$$\begin{aligned}
 21. \quad f(x) &= x^2 + 3x + 2 \quad g(x) = x + 1 \\
 f(g(x)) &= (x+1)^2 + 3(x+1) + 2 \\
 &= x^2 + 2x + 1 + 3x + 3 + 2 \\
 &= x^2 + 5x + 6
 \end{aligned}$$

$$\begin{aligned}
 22. \quad \frac{230}{V+25} &= \frac{180}{V} \\
 230V &= 180(V+25) \\
 230V &= 180V + 4500 \\
 230V - 180V &= 4500 \\
 50V &= 4500
 \end{aligned}$$

$$V = \frac{4500}{50} = 90 \text{ km/hr}$$

$$\text{Car A} = 90 + 25 = 115 \text{ km/hr}$$

$$\text{Car B} = 90 \text{ km/hr}$$

$$23. \frac{x-2}{x+4} + \frac{x+1}{x+6} = \frac{11x+32}{x^2+10x+24}$$

$$\frac{x-2}{x+4} + \frac{x+1}{x+6} = \frac{11x+32}{(x+4)(x+6)}$$

$$(x-2)(x+6) + (x+1)(x+4) = 11x+32$$

$$x^2 + 4x - 12 + x^2 + 5x + 4 = 11x + 32$$

$$2x^2 + 9x - 8 = 11x + 32$$

$$2x^2 - 2x - 40 = 0$$

$$x^2 - x - 20 = 0$$

$$(x-5)(x+4) = 0$$

$$x = 5, x = -4$$

The equation is undefined at $x = -4$

Therefore,

$$x = 5$$