

Problem 8

- {2} {4} {5} {7}
- {2,4} {2,5}, {2,7}, {4,5}, {4,7}, {5,7}
- {2,4,5}, {2,4,7}, {2,5,7}, {4,5,7}
- {2,4,5,7}

Answer: { 2, 4, 5, 7, 6, 9, 11, 12, 13, 14, 16, 18 }

Answer: C

Problem 9

$$ax - b = c \Rightarrow x = \frac{c+b}{a} \quad a \neq 0$$

$$bx - c = a \Rightarrow x = \frac{a+c}{b} \quad b \neq 0 \quad a \neq b$$

$$\frac{c+b}{a} = \frac{a+c}{b} \Rightarrow a^2 - b^2 + ac - bc = 0 \Rightarrow$$

$$(a-b)(a+b+c) = 0 \Rightarrow a+b+c = 0$$

Answer: A

Problem 10

$$x^2 + 13x - 30 = 0 \begin{cases} x_1 = -15 \\ x_2 = 2 \end{cases}$$

$$\frac{x^2 - 22x + 40}{x^2 + 13x - 30} =$$

$$x^2 - 22x + 40 = 0 \begin{cases} x_3 = 20 \\ x_4 = 2 \end{cases}$$

$$\frac{(x-20)(\cancel{x-2})}{(x+15)(\cancel{x-2})}$$

$$D = \mathbb{R} \setminus \{2, -15\}$$

$$\lim_{x \rightarrow \pm \infty} \frac{x-20}{x+15} = 1$$

HA $y = 1$ at $\pm \infty$

$$\lim_{x \rightarrow -15} \frac{x-20}{x+15} = \pm \infty$$

VA $x = -15$