

$$\underline{257.35} = 2.5735 \times 10^2$$

$$\underline{0.000125} = 1.25 \times 10^{-4}$$

$$-1.43 \times 10^4 = -\underline{14300}$$

$$5.79 \times 10^{-3} = \underline{0.00579}$$

$$\begin{aligned} \frac{40}{0.08} &= \frac{4 \times 10^1}{8 \times 10^{-2}} = \frac{4}{8} \times 10^{1-(-2)} \\ &= 0.5 \times 10^3 = 5 \times 10^2 = 500 \end{aligned}$$

$$\$16,400,000,000,000 = 1.64 \times 10^{13}$$

$$314,000,000 \text{ people} = 3.14 \times 10^8$$

$$0.52229 \times 10^5 = 5.22 \times 10^4 = \underline{\$52200} \text{ / person}$$

$$\begin{aligned} -600 \times 30 &= -18,000 \\ (-6 \times 10^2)(3.0 \times 10^1) &\nearrow \\ -18 \times 10^3 & \\ -1.8 \times 10^4 & \end{aligned}$$

$$\begin{aligned} \frac{-600}{-30} &= 20 \leftarrow \\ \frac{-6 \times 10^2}{-3 \times 10^1} &= \frac{-6}{-3} \times 10^{2-1} \\ &= 2 \times 10^1 = \end{aligned}$$

EE

$$\boxed{8 + 6(x-3)^2} \text{ for } x=13 \Rightarrow 8 + 6(13-3)^2$$

$$8 + 6 \cdot 10^2$$

$$8 + 6 \cdot 100$$

$$8 + 600$$

$$\boxed{608}$$

$$8 + 6(x-3)(x-3)$$

FOIL

$$8 + 6(x^2 - 3x - 3x + 9)$$

$$8 + 6(x^2 - 6x + 9)$$

$$8 + 6x^2 - 36x + 54$$

$$\boxed{6x^2 - 36x + 62} \text{ for } x=13 \Rightarrow 6(13)^2 - 36(13) + 62$$

$$1014 - 468 + 62$$

$$546 + 62$$

$$\boxed{608}$$

$$x^2 + 4x - 7 \quad x = -5$$

$$(-5)^2 + 4(-5) - 7$$

$$25 + (-20) - 7$$

$$\underline{25 - 20} - 7$$

$$5 - 7$$

$$-2$$

$$\cancel{-5^2} + 4(-5) - 7$$

$$-3x^2 + 4xy - y^3 \text{ for } \begin{cases} x=5 \\ y=-1 \end{cases}$$

$$-3(5)^2 + 4(5)(-1) - (-1)^3$$

$$-3(25) + (-20) - (-1)$$

$$-75 - 20 + 1$$

$$-94$$

Terms Coefficient

$$M = \underbrace{-120}_{\text{Terms}} \underbrace{x^2}_{\text{Coefficient}} + \underbrace{998x}_{\text{Terms}} + \underbrace{590}_{\text{Coefficient}}$$

M = Calorie needed

X = age group

$$M = -120(4)^2 + 998(4) + 590$$

$$M = -120 \cdot 16 + 998 \cdot 4 + 590$$

$$M = \underbrace{-1920 + 3992}_{\text{Terms}} + 590$$

$$= 2072 + 590$$

$$= 2662$$

$$2700 - 2662 = 38 \text{ Calorie}$$