

## 1. Economics Textbook Publisher

Diketahui:

- Biaya variabel per buku = \$55
- Biaya tetap = \$225,000
- Harga jual per buku = \$100
- Jumlah buku =  $x$

### a. Persamaan Total Cost

$$C(x) = 55x + 225,000$$

### b. Persamaan Sales Revenue

$$R(x) = 100x$$

### c. Profit jika 3,000 buku terjual

$$P(x) = R(x) - C(x) \\ P(3000) = 100(3000) - [55(3000) + 225,000] \\ = 300,000 - 390,000 = -90,000$$

→ Rugi \$90,000

### d. BEP secara aljabar

$$R = C \\ 100x = 55x + 225,000 \\ 45x = 225,000 \\ x = 5,000 \text{ buku}$$

### e. BEP grafis

- Titik potong garis  $R(x)$  dan  $C(x)$  terjadi pada  $x = 5,000$
- **Preferensi:** metode aljabar lebih cepat & presisi

## 2. Manufacturer of Staplers

Diketahui:

- Biaya variabel = \$2
- Biaya tetap = \$15,000
- Harga jual = \$12

### a. BEP (aljabar)

$$12x = 2x + 15,000 \\ 10x = 15,000 \\ x = 1,500 \text{ staplers}$$

### b. Total Cost di BEP

$$C=2(1500)+15,000=18,000 \quad C = 2(1500) + 15\{\},000 = \boxed{18\{\},000} \quad C=2(1500)+15,000=18,000$$

### c. Revenue di BEP

$$R=12(1500)=18,000 \quad R = 12(1500) = \boxed{18\{\},000} \quad R=12(1500)=18,000$$

### d. Profit di BEP

$$P=0 \quad P = 0 \quad P=0$$

→ **Tepat impas**

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## 3. Solution Manual Publisher

Diketahui:

- Biaya variabel = \$4
- Biaya tetap = \$15,000
- Harga jual = \$29.99

### a. Persamaan Revenue

$$R(x)=29.99x \quad R(x) = 29.99x \quad R(x)=29.99x$$

### b. Persamaan Cost

$$C(x)=4x+15,000 \quad C(x) = 4x + 15\{\},000 \quad C(x)=4x+15,000$$

### c. Profit jika 2,000 manual

$$P=29.99(2000)-[4(2000)+15,000] \quad P = 29.99(2000) - [4(2000) + 15\{\},000] \quad P=29.99(2000)-[4(2000)+15,000] \\ =59,980-23,000=36,980 \quad = 59\{\},980 - 23\{\},000 = \boxed{36\{\},980} \quad =59,980-23,000=36,980$$

### d. BEP (aljabar)

$$29.99x=4x+15,000 \quad 29.99x = 4x + 15\{\},000 \quad 29.99x=4x+15,000 \quad 25.99x=15,000 \quad 25.99x = 15\{\},000 \quad 25.99x=15,000 \\ x \approx 577 \text{ manual} \quad x \approx \boxed{577} \text{ manual} \quad x \approx 577 \text{ manual}$$

### e. BEP grafis

- Titik potong sekitar **577 unit**
  - **Preferensi:** aljabar (lebih efisien)
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## 4. AirAsia – New Regional Route

Diketahui:

- Fixed cost = **\$12,000,000**
- Variable cost/passenger = **\$24**
- Average fare = **\$59**
- Penumpang =  $x$

### a. Revenue Equation

$$R(x) = 59x$$

### b. Cost Equation

$$C(x) = 24x + 12,000,000$$

### c. Profit jika 420,000 penumpang

$$P = 59(420,000) - [24(420,000) + 12,000,000]$$
$$P = 59(420,000) - [24(420,000) + 12,000,000] = 24,780,000 - 22,080,000 = 2,700,000$$
$$P = 2,700,000$$

➔ Profit USD 2.7 juta

### d. BEP (aljabar)

$$59x = 24x + 12,000,000$$
$$35x = 12,000,000$$
$$x \approx 342,857$$

penumpang  $x \approx 342,857$  penumpang

### e. BEP grafis

- Titik potong R dan C di  $\sim 343,000$  penumpang
- Preferensi:
  - ✓ Aljabar → cepat & akurat
  - ✓ Grafis → visual & mudah dipahami manajemen

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## ✓ Kesimpulan Umum

- BEP terjadi saat Revenue = Cost
- Profit = 0 di BEP
- Metode aljabar lebih efisien, grafis lebih komunikatif