Variance 2: direct material price and efficiency

MODULE 3 | PART C.2.2 | STUDENT COMPANION

Worked example: Blue Wren Drinkware (imagined), September

Steel, September	Calculation	Amount
1. Actual: AQ x AP	4,700 kg x $5.80	$27,260
2. Flexed: AQ x BP	4,700 kg x $6.00	$28,200
3. Flexible: BQ allowed x BP	9,000 x 0.5 = 4,500 kg x $6.00	$27,000
Price variance (1 - 2)	4,700 x ($5.80 - $6.00)	$940 F
Efficiency variance (2 - 3)	(4,700 - 4,500) x $6.00	$1,200 U
Total material variance		$260 U

Formulas

Variance	Formula
Material price	Actual quantity x (actual price - budgeted price)
Material efficiency	(Actual quantity - quantity allowed for actual output) x budgeted price

Question 1

Ridgeway Boards (imagined) - September. Static budget: make and sell 4,000 skateboards at $90. Standards per board: timber 2 kg at $5 per kg; labour 0.5 hours at $32 per hour; variable overhead $24 per machine hour, 0.25 machine hours per board; fixed overhead budget $40,000 a month, allocated on budgeted machine hours. Actual: 3,800 boards made and sold at $92; timber used 7,800 kg costing $4.80 per kg; labour 1,950 hours at $31 per hour; 920 machine hours; variable overhead $23,000; fixed overhead $41,500.

Calculate Ridgeway's timber price and efficiency variances for September. Was its new, cheaper supplier a good choice?

Worked answers

MODULE 3 | PART C.2.2 | WORKED ANSWERS - ATTEMPT THE QUESTIONS FIRST

Question 1 - Worked answer

Item	Calculation	Result
Quantity allowed	3,800 x 2 kg	7,600 kg
Price variance	7,800 x ($4.80 - $5.00)	$1,560 F
Efficiency variance	(7,800 - 7,600) x $5.00	$1,000 U
Total	Actual $37,440 vs flexible $38,000	$560 F

Unlike Blue Wren, Ridgeway's price saving outweighed the extra usage, so the cheaper timber left it $560 better off - provided board quality and customer satisfaction did not suffer. Purchasing explains the price; production explains usage.