Teacher Answer Key

Case Study

1. A ceiling fixture supplies ambient lighting, which illuminates the room overall but not any specific activity. Task lighting is the layer that provides focused light where work happens, and the reading names Jamal's exact failure: a person lit only from behind shadows their own work no matter how bright the bulb is.

2. Color temperature is measured in kelvins and describes whether light appears warm and yellow or cool and blue, with 2700K resembling incandescent and 4000K reading as cool white. Mixing temperatures in one room is a visible mistake, because two different ratings make the space look subtly broken.

Multiple Choice

1. D

2. B

3. D

Matching

1-B, 2-A, 3-D, 4-E, 5-C

Fill-in-the-Blank

1) kelvins, 2) 2700, 3) Task

Short Answer (Sample Responses)

Q1: Lamps require no permission, no installation, and no conversation with a landlord, and they move to the next apartment when the lease ends. The reading says roughly a hundred dollars spent on three lamps changes a room more reliably than the same amount spent on almost anything else.

Q2: Watts measure the energy a bulb consumes rather than the light it produces, and modern LEDs generate the same output on a fraction of the power. A sixty-watt incandescent and an eight-watt LED can both produce about eight hundred lumens, so lumens are now the meaningful number.

Q3: Orientation determines the character of a room's light and cannot be changed, since north light stays soft and cool while west light turns intense and warm in late afternoon. Knowing this before choosing prevents a room that looks correct at noon and wrong every evening.