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# Transmissão de calor

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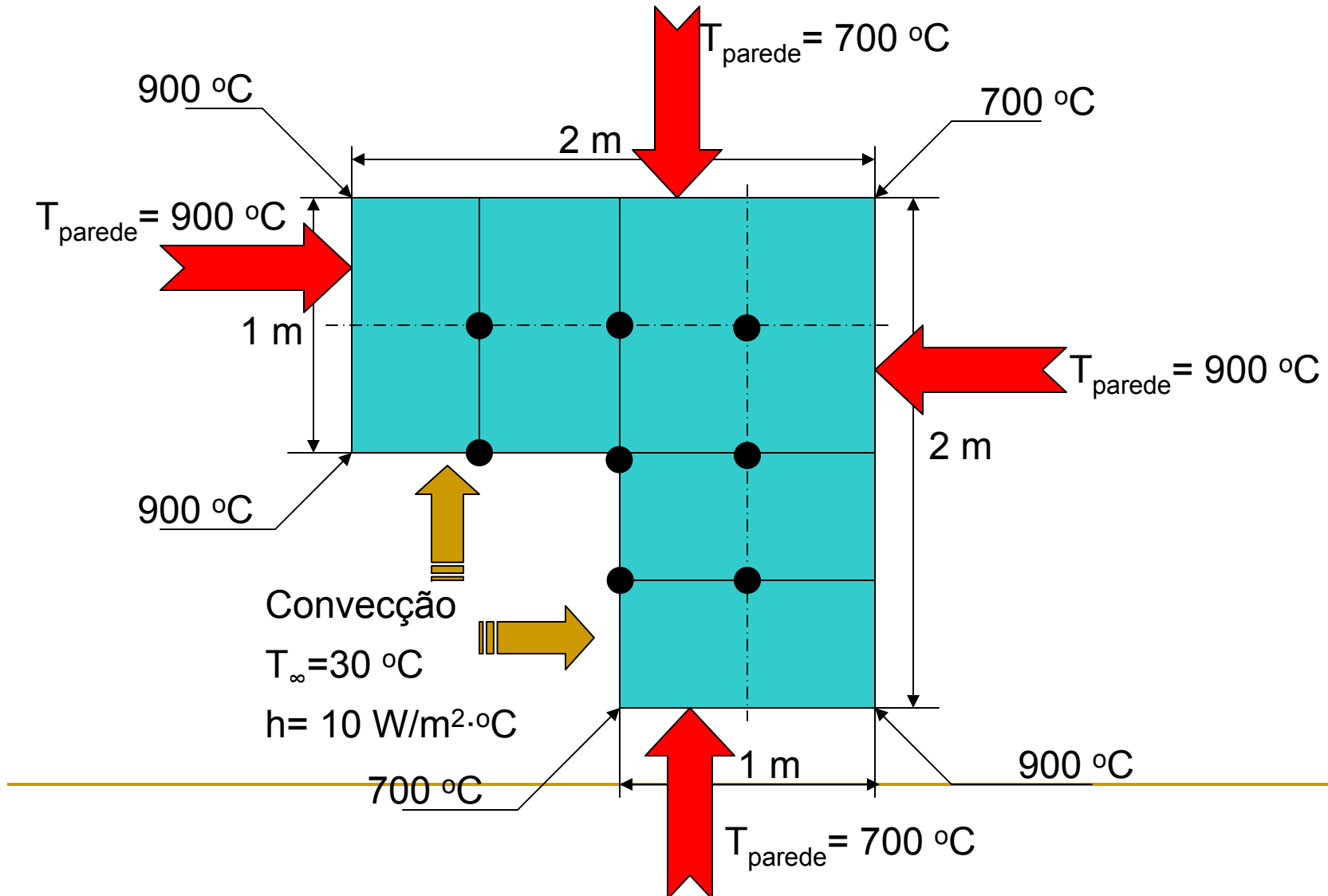
Trabalho Para Casa de Elementos  
Finitos

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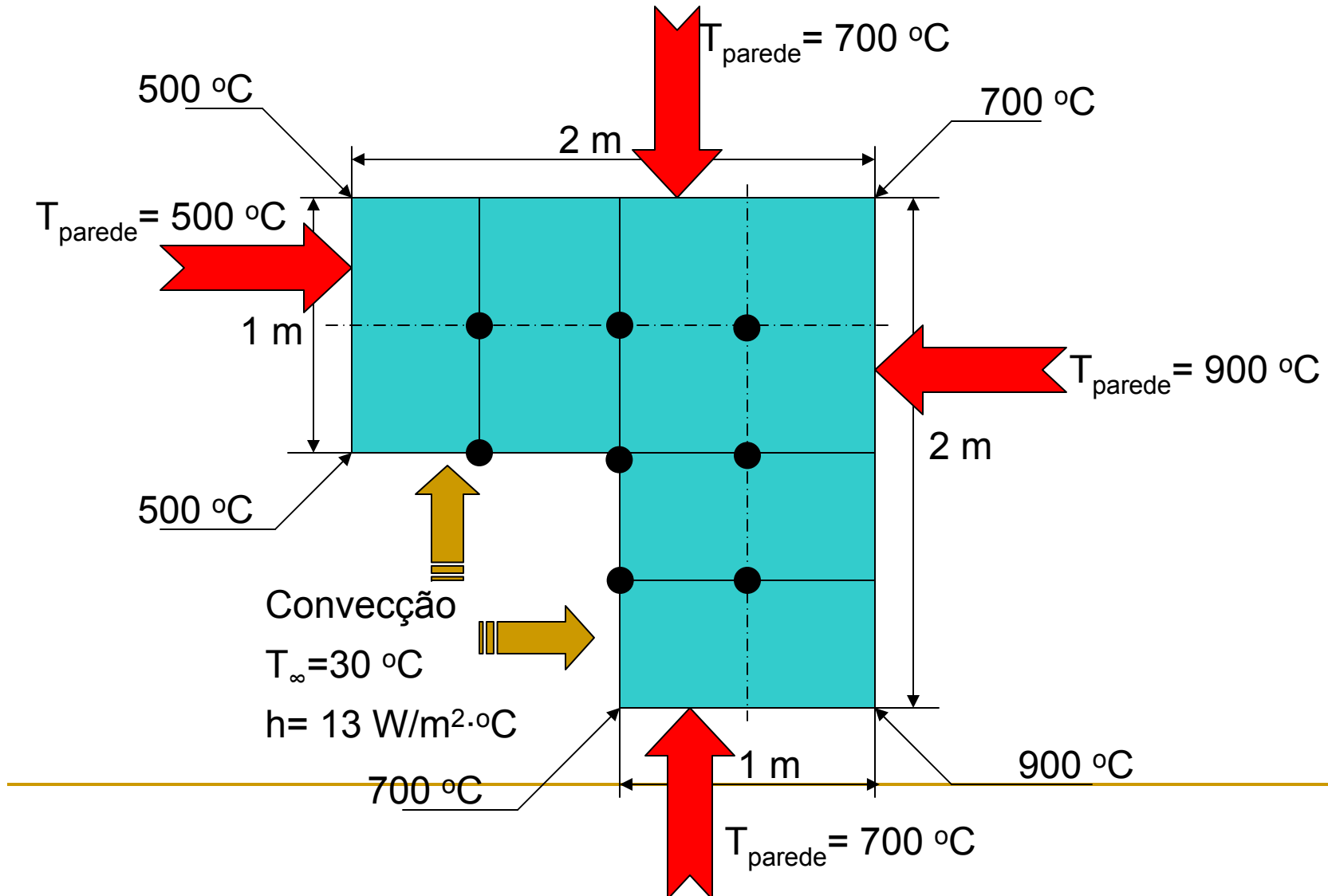
# Problema I

- Calcular as temperaturas dos nós assinalados a preto para uma placa de prata com as dimensões apresentadas na figura e as seguintes características:
  - Coeficiente de condutibilidade térmica 429 W/mk
  - Densidade 10500 kg/m<sup>3</sup>
  - Calor específico 235 J/kgK
- Variantes 1,2,3,4,5,6,7,8,9,10.

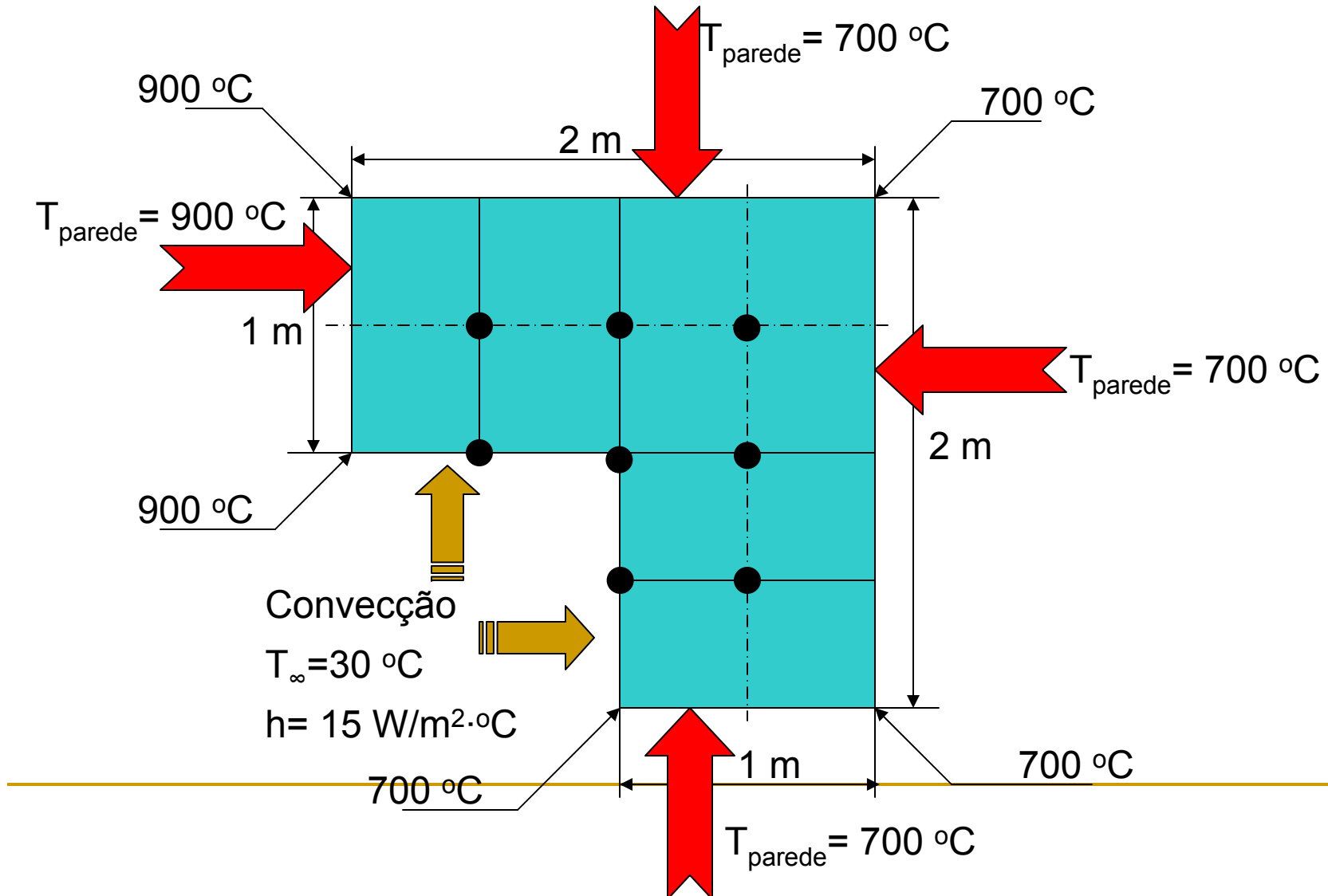
# Variante 1



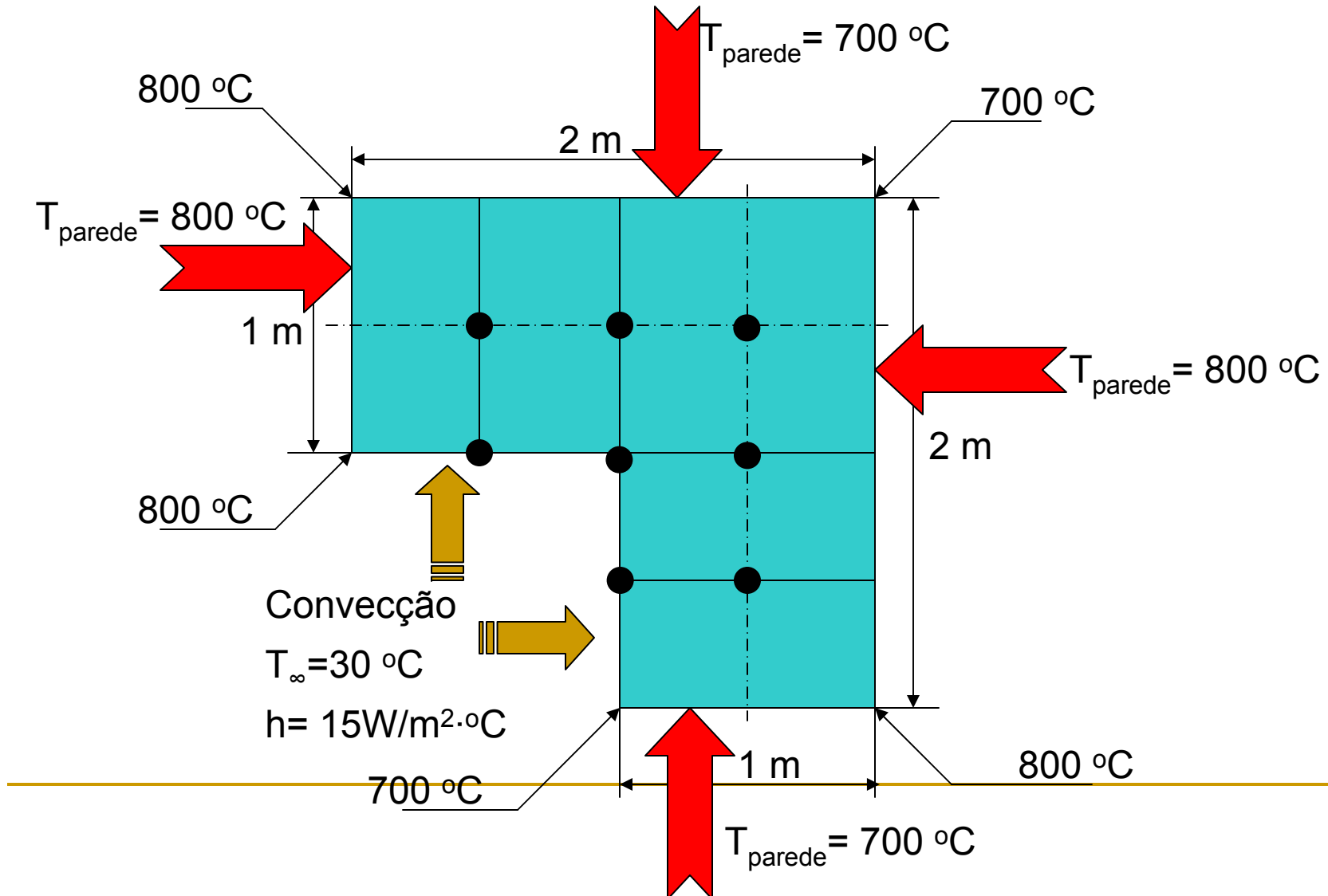
# Variante 2



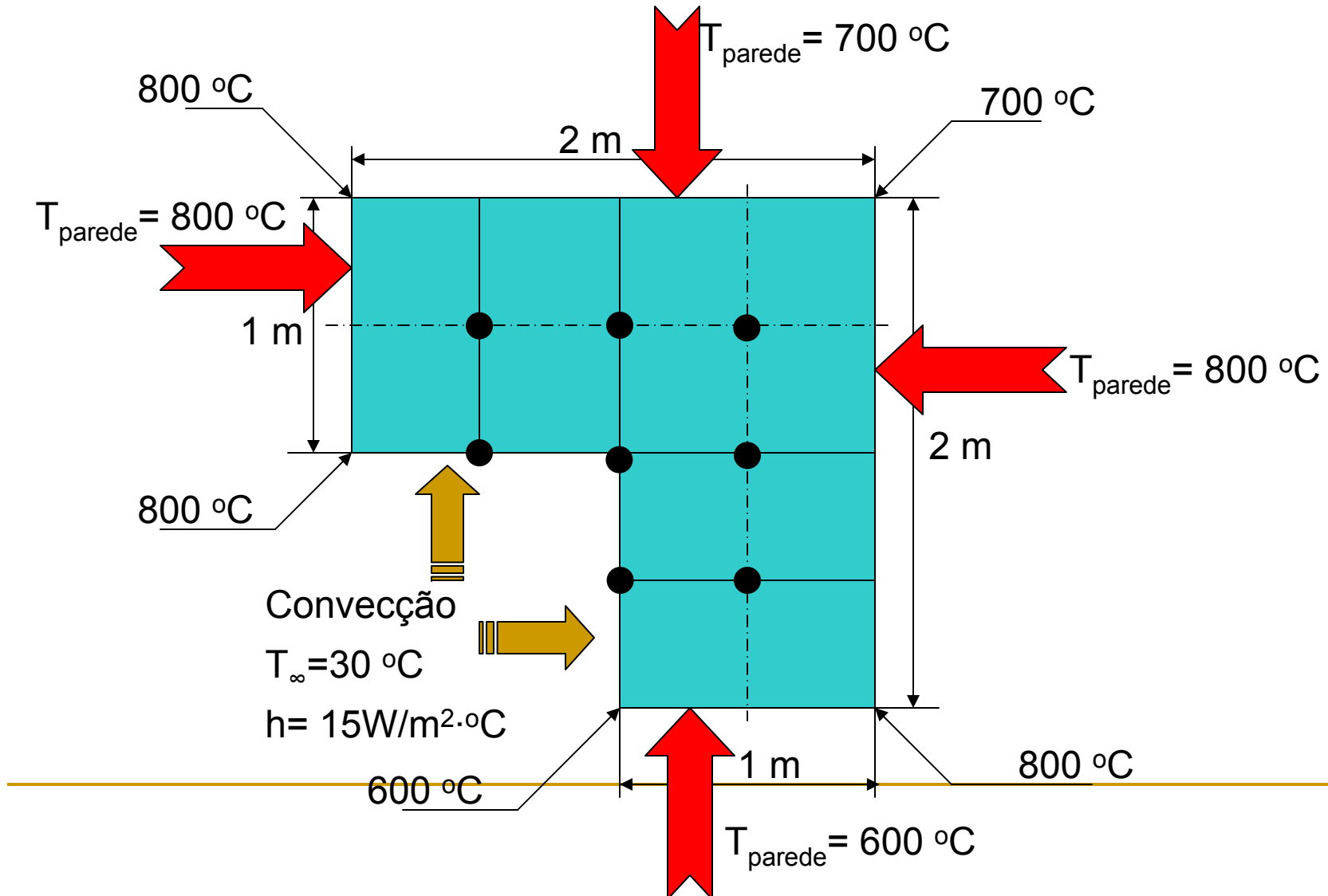
# Variante 3



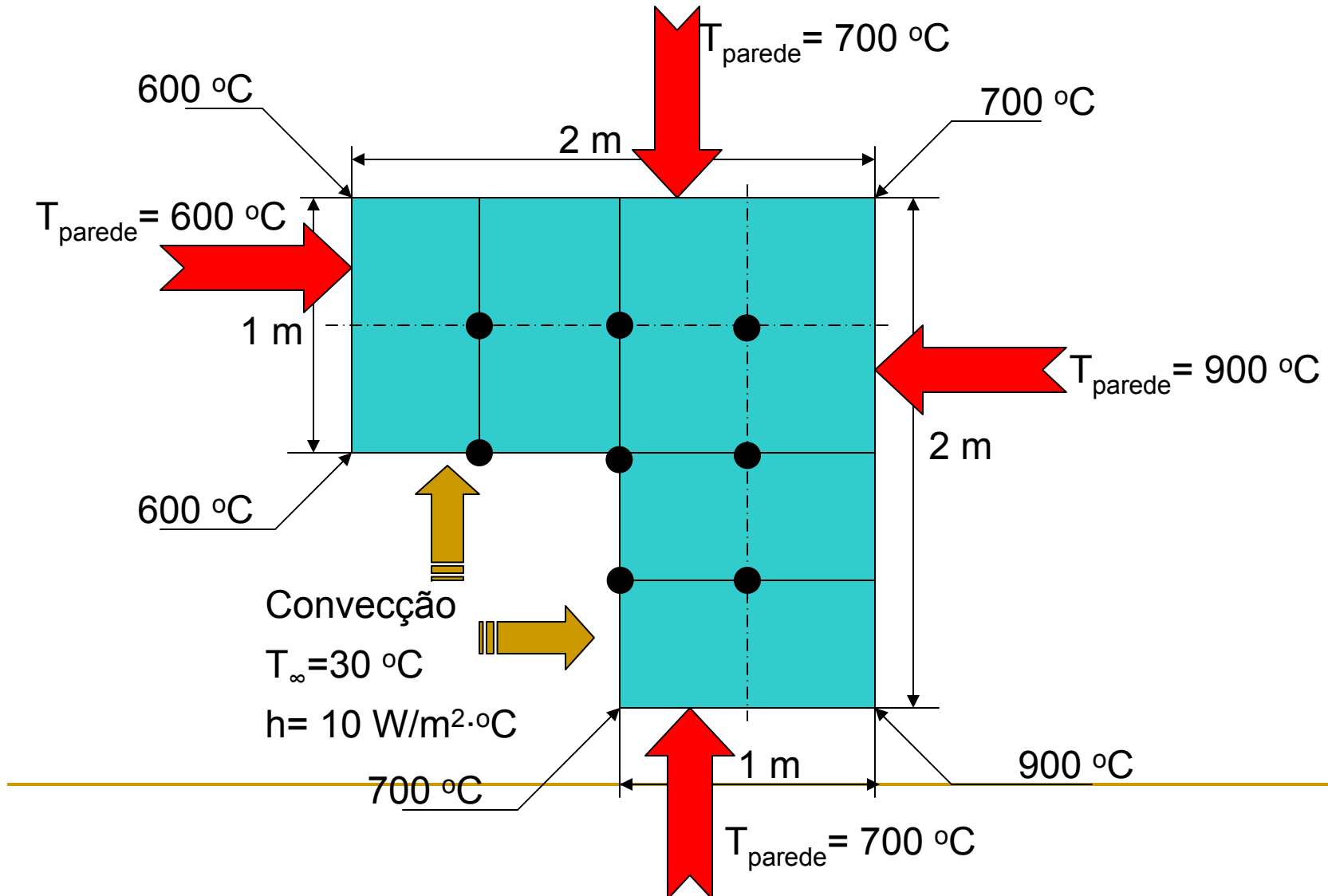
# Variante 4



# Variante 5

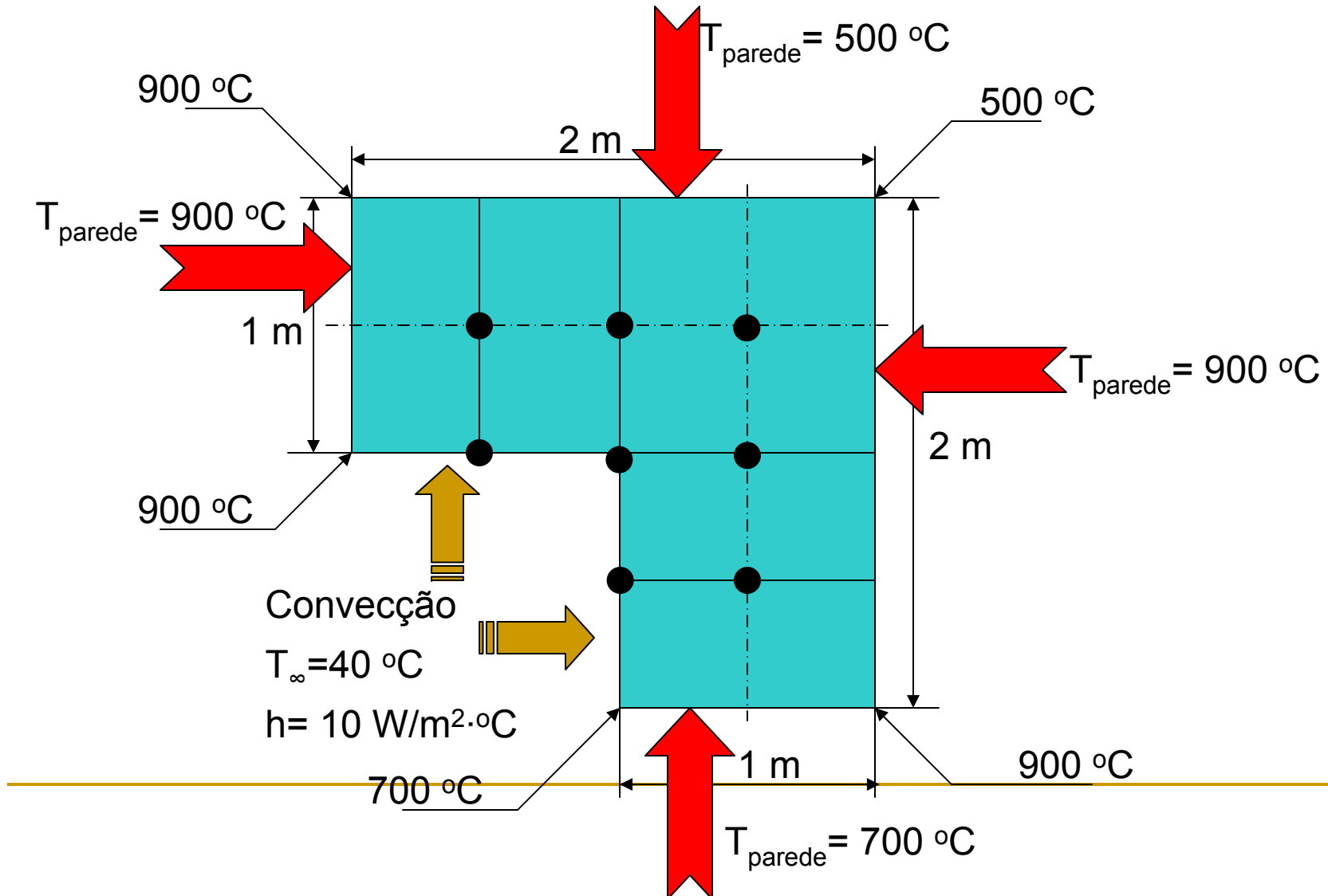


# Variante 6

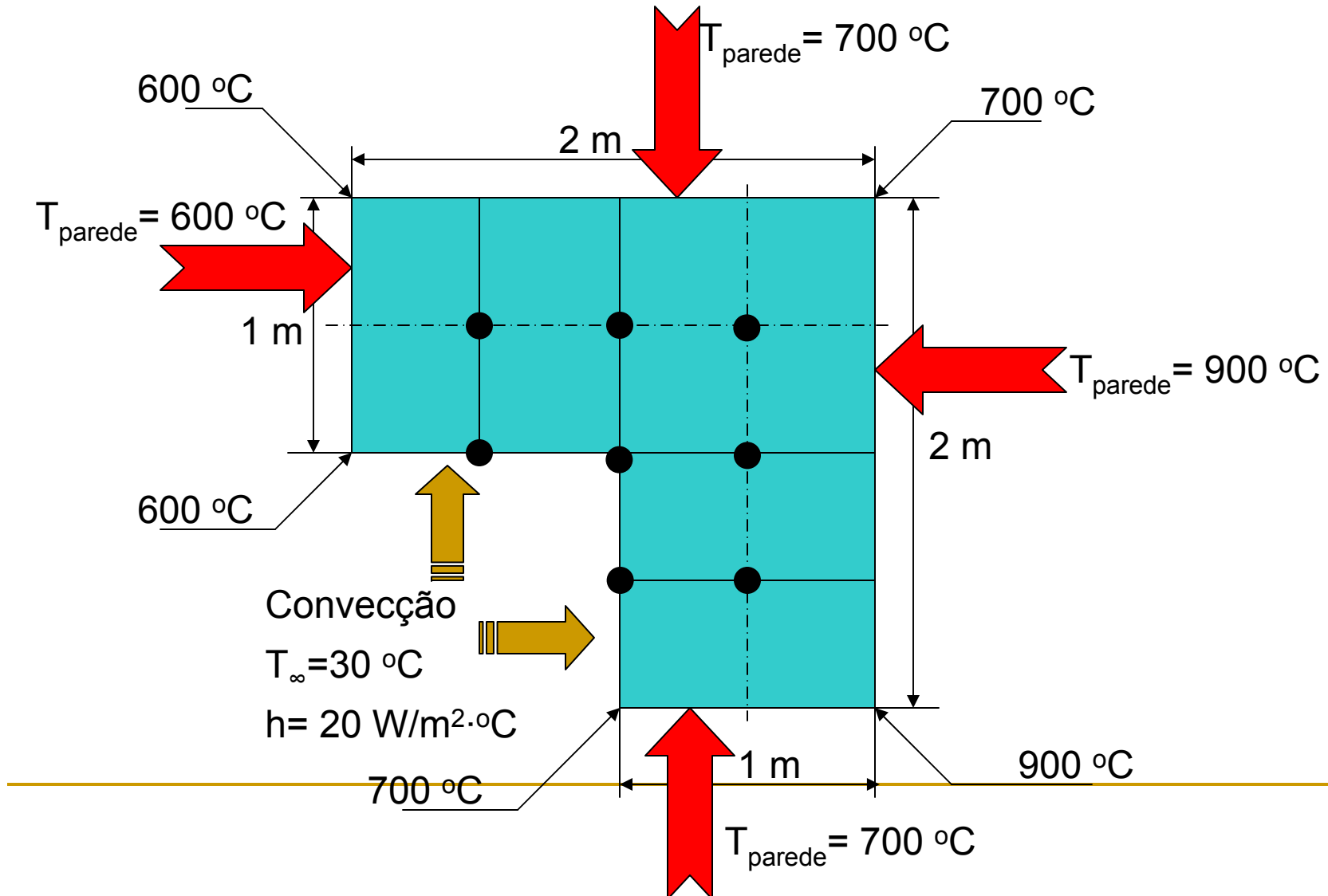




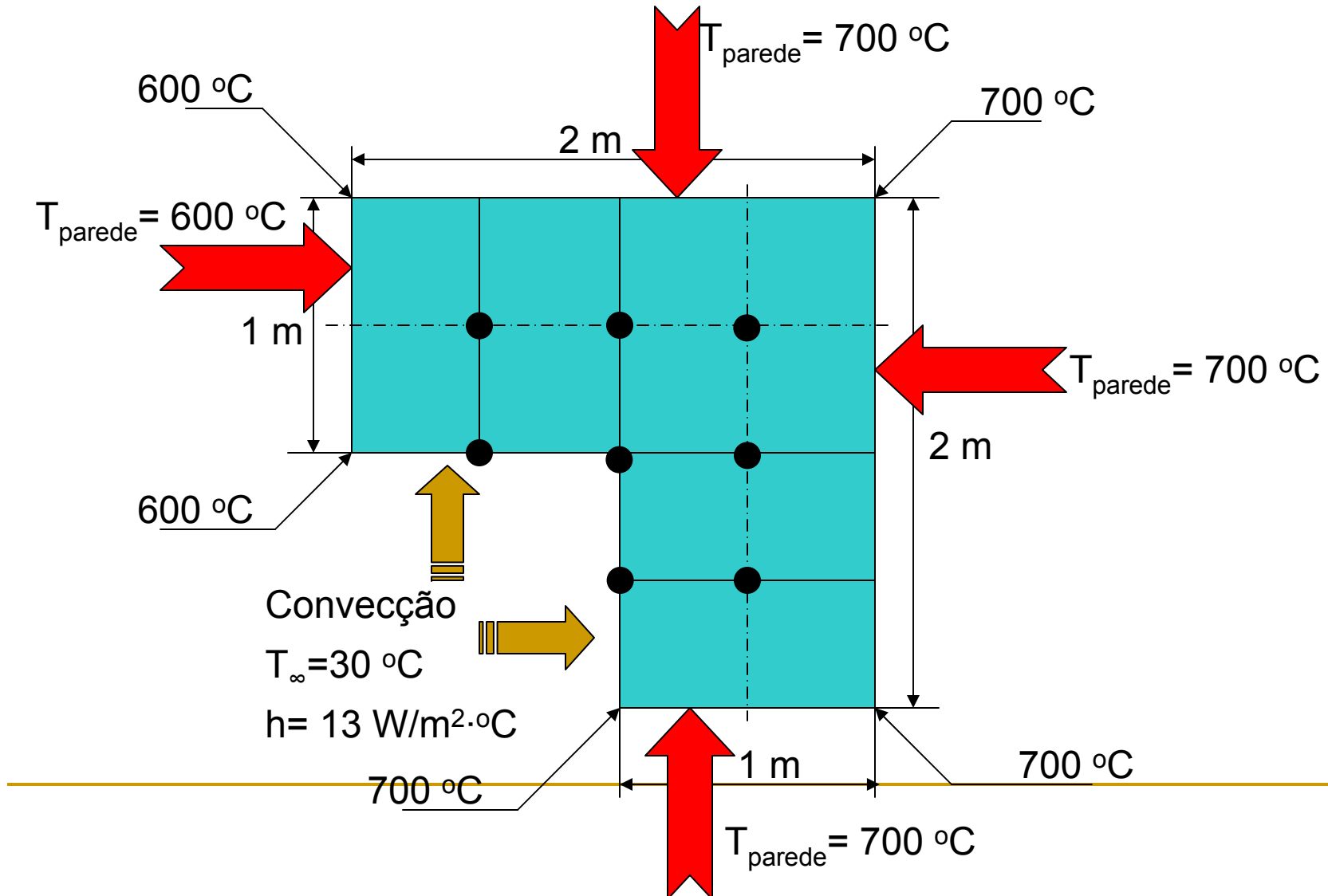
# Variante 7



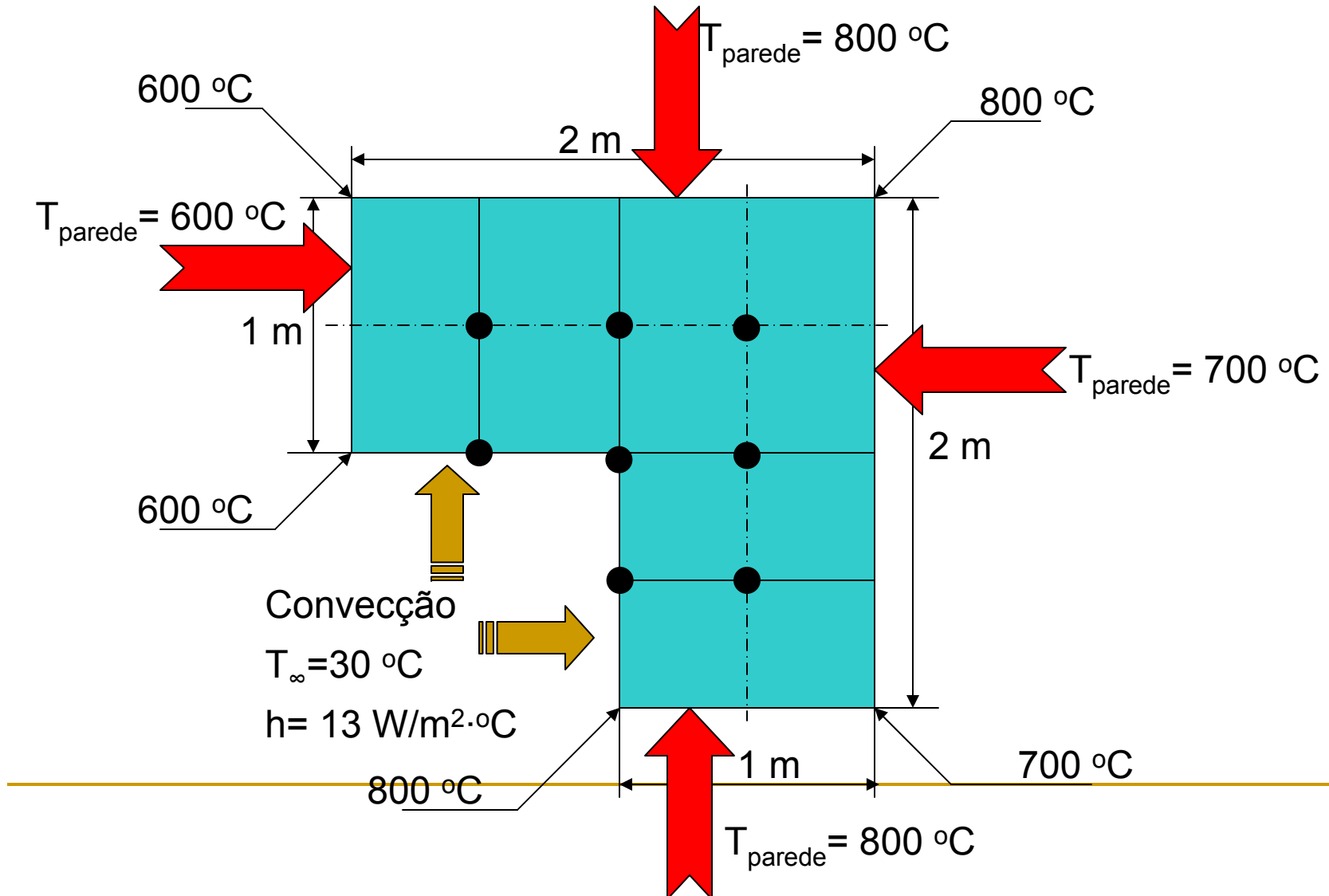
# Variante 8



# Variante 9



# Variante 10

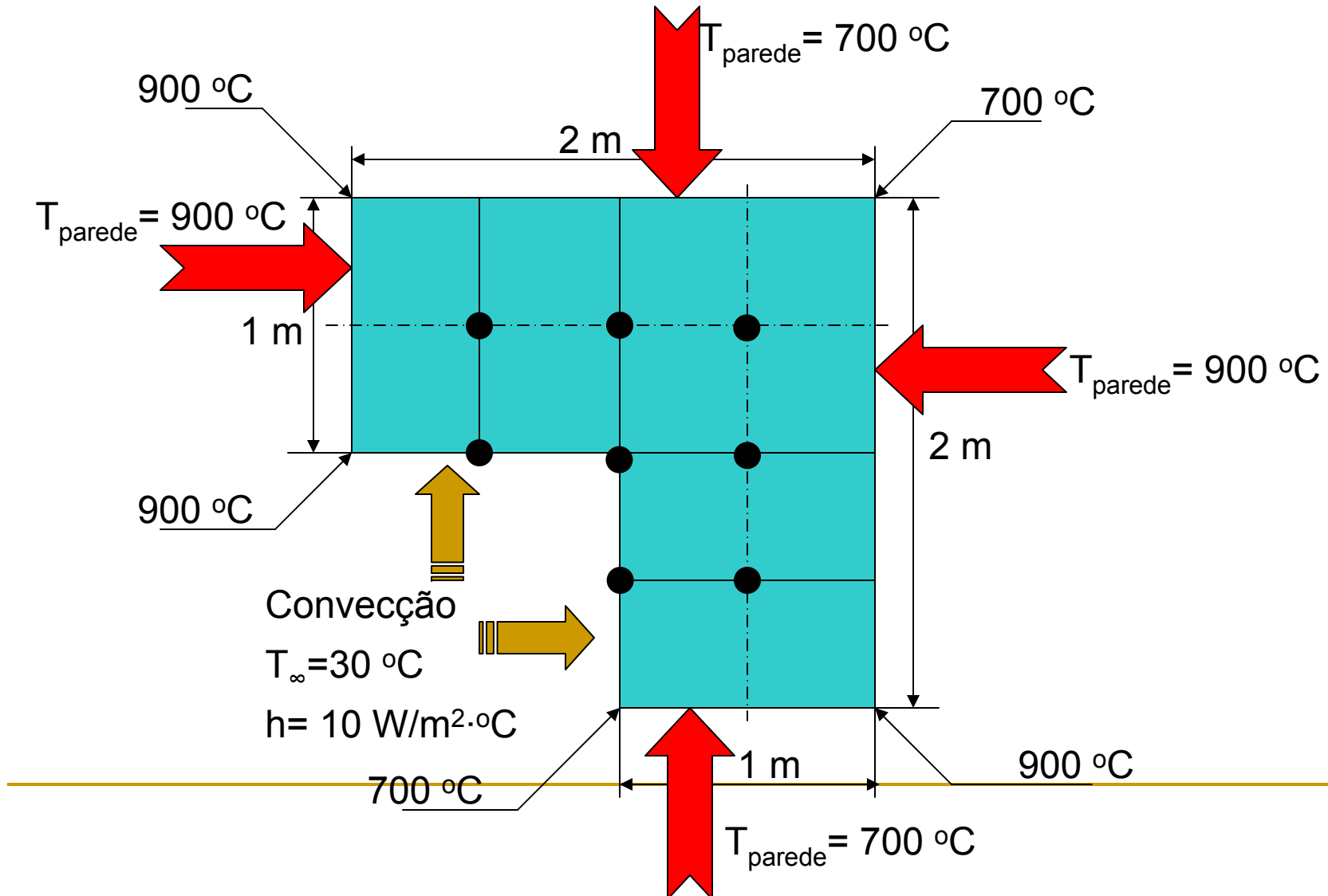


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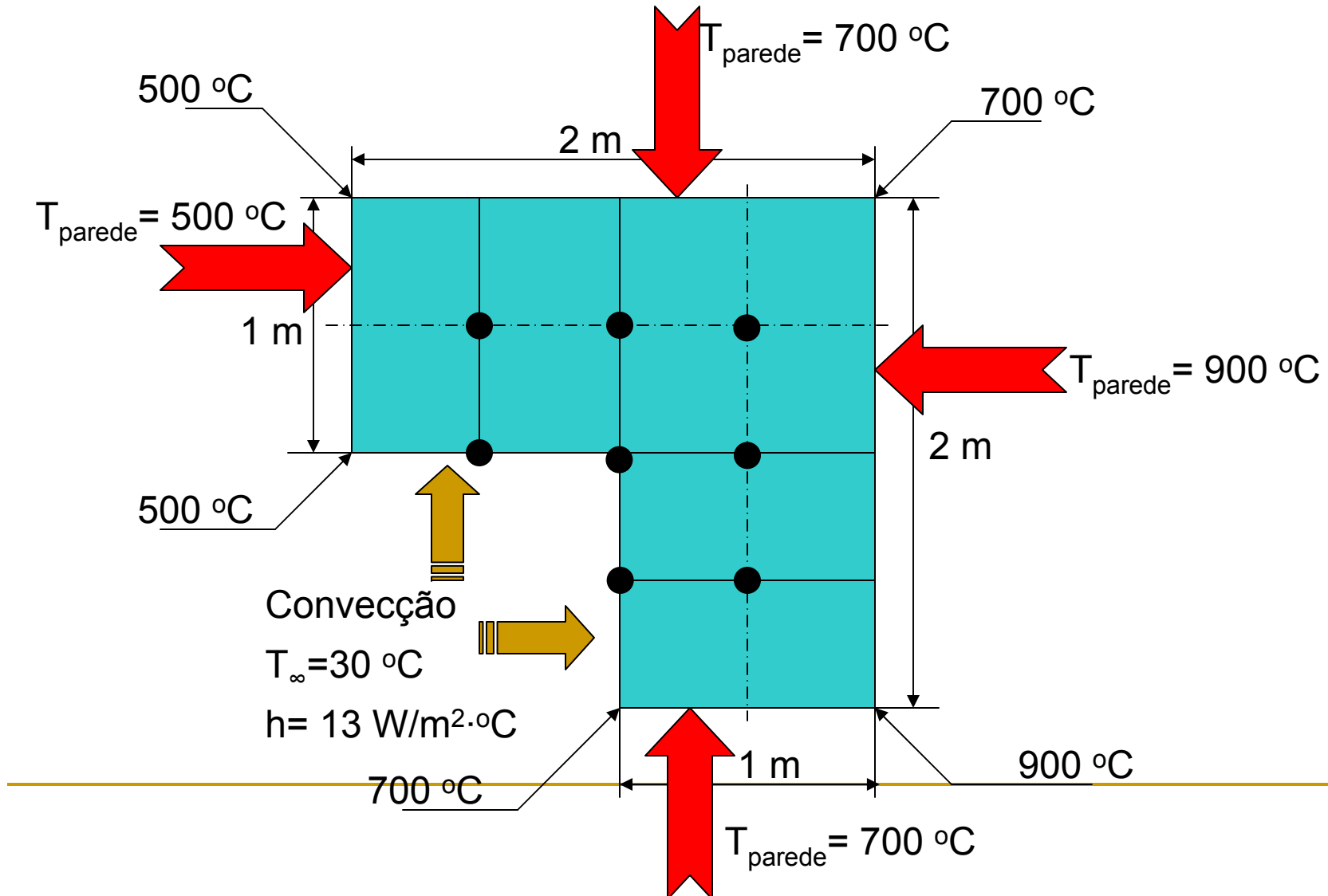
## Problema II

- Calcular as temperaturas dos nós assinalados a preto para uma placa de aço com as dimensões apresentadas na figura e as seguintes características:
  - Coeficiente de condutibilidade térmica  $60,5 \text{ W/mk}$
  - Densidade  $7854 \text{ kg/m}^3$
  - Calor específico  $434 \text{ J/kgK}$
- Variantes 11,12,13,14,15,16,17,18,19,20.

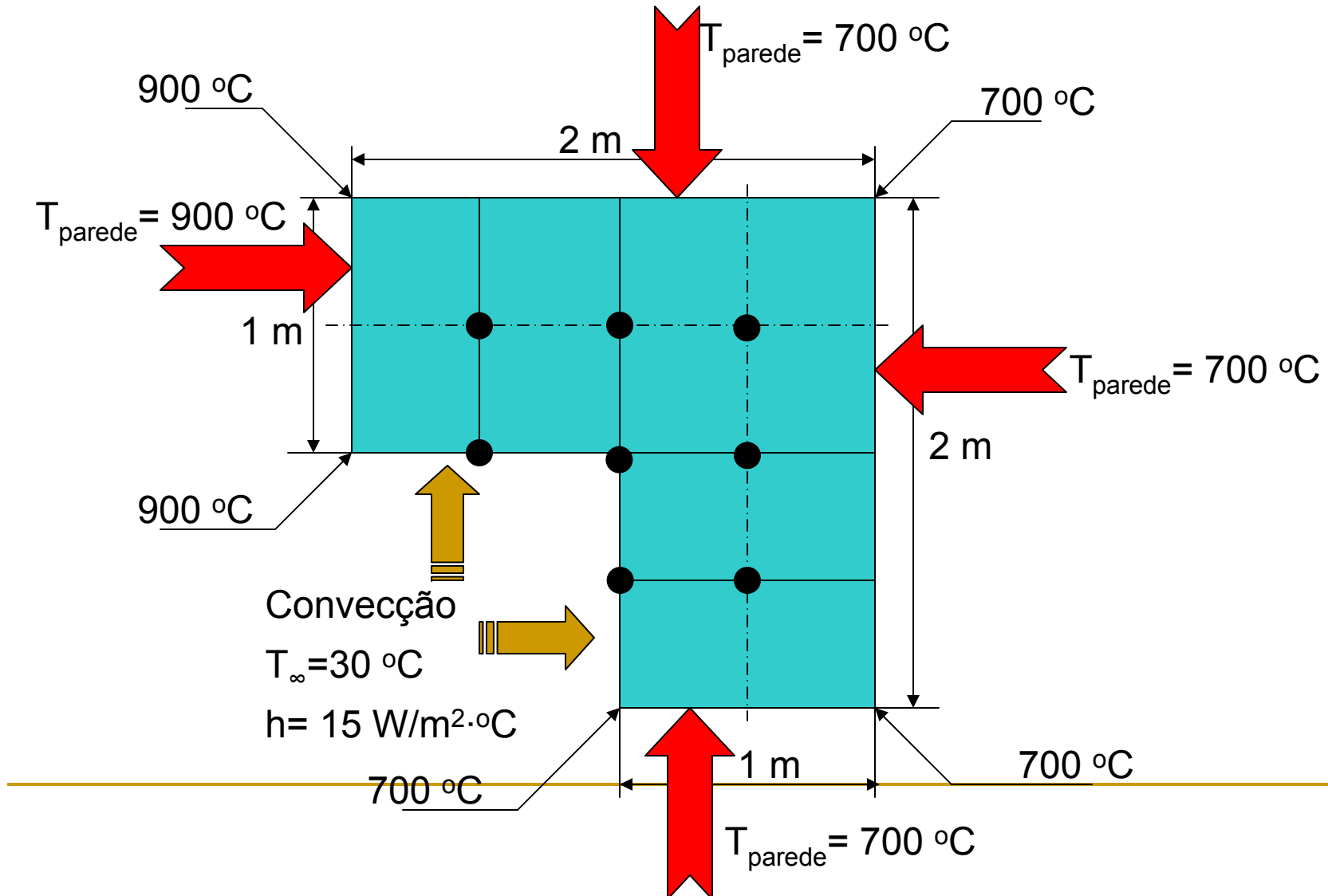
# Variante 11



# Variante 12

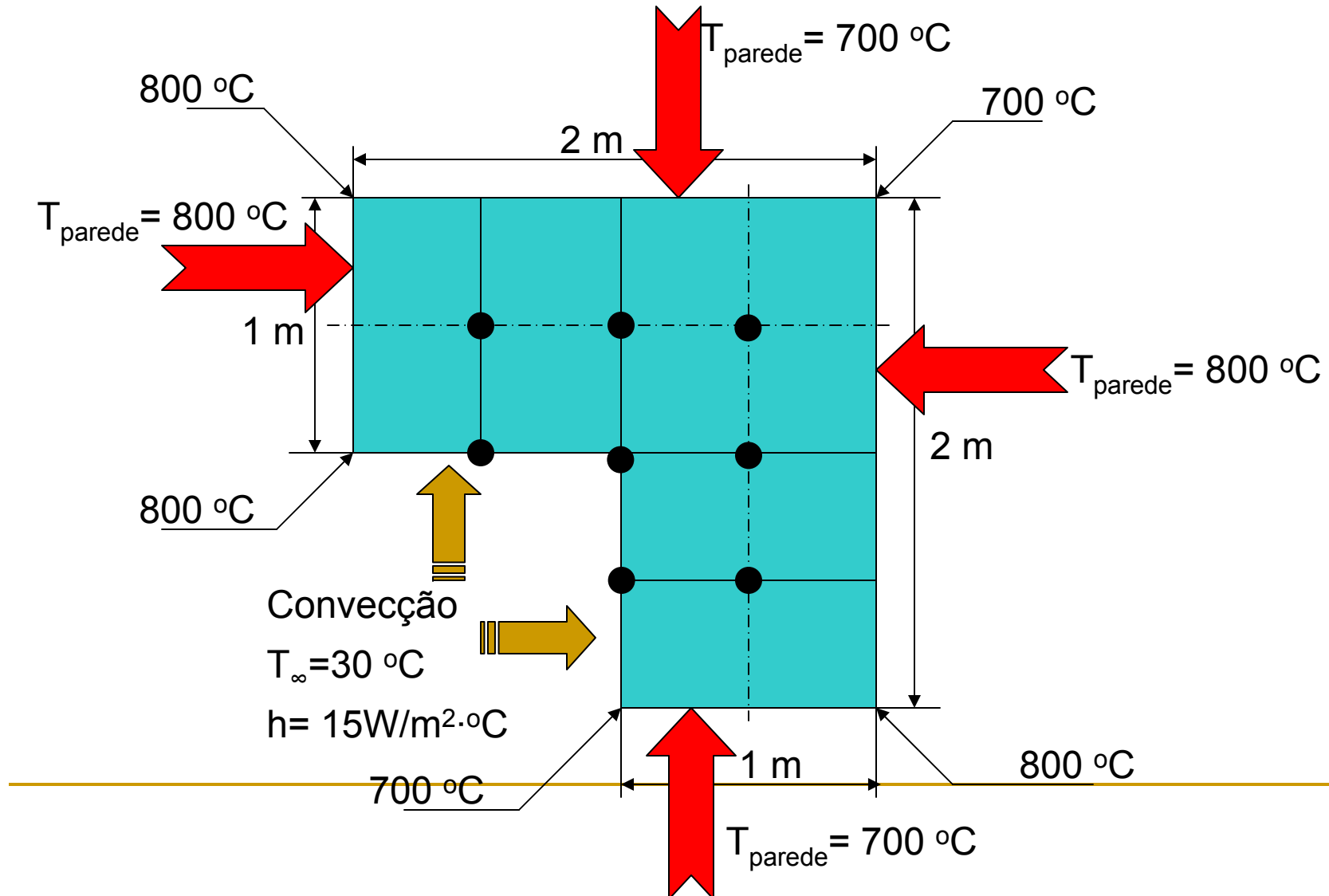


# Variante 13

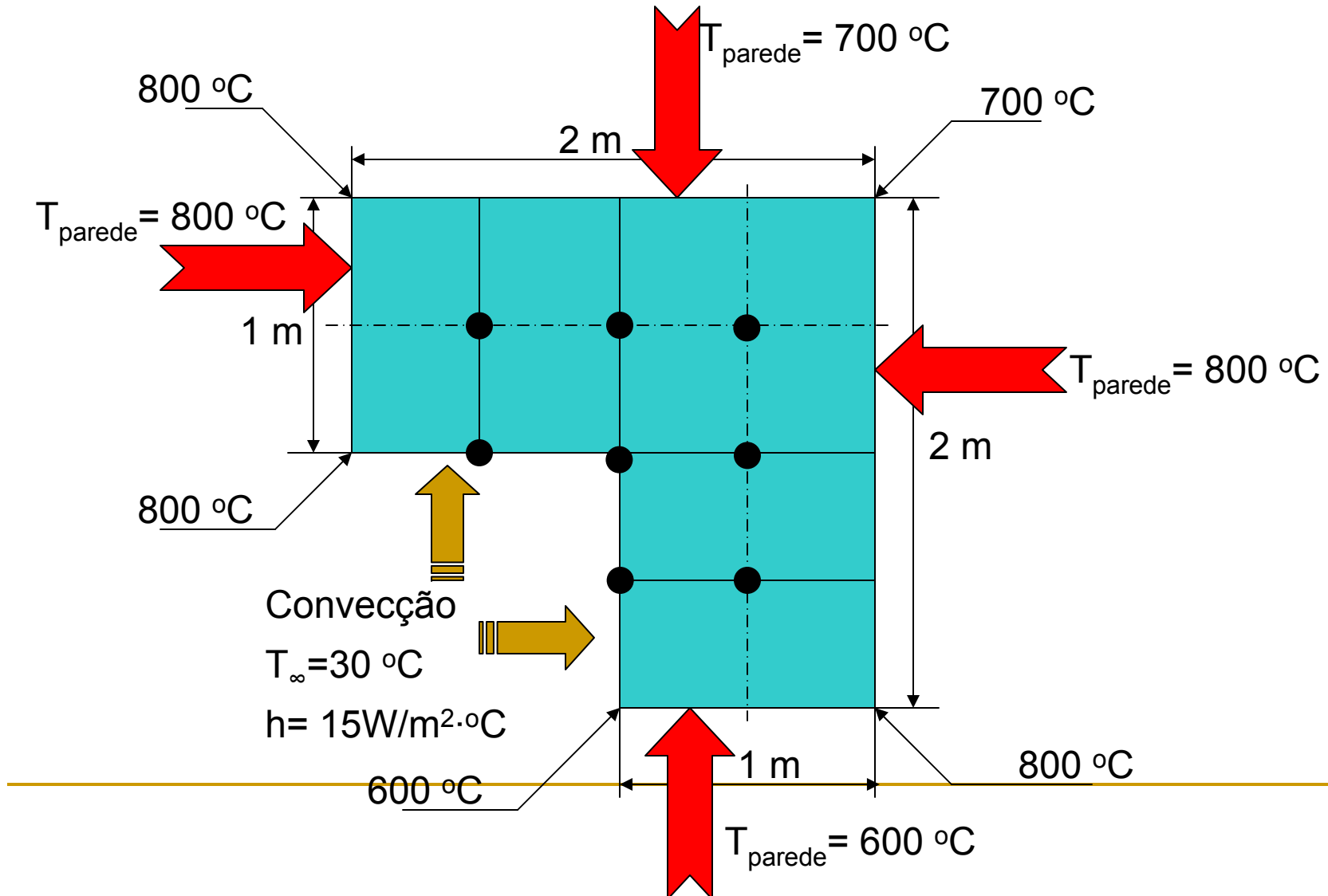




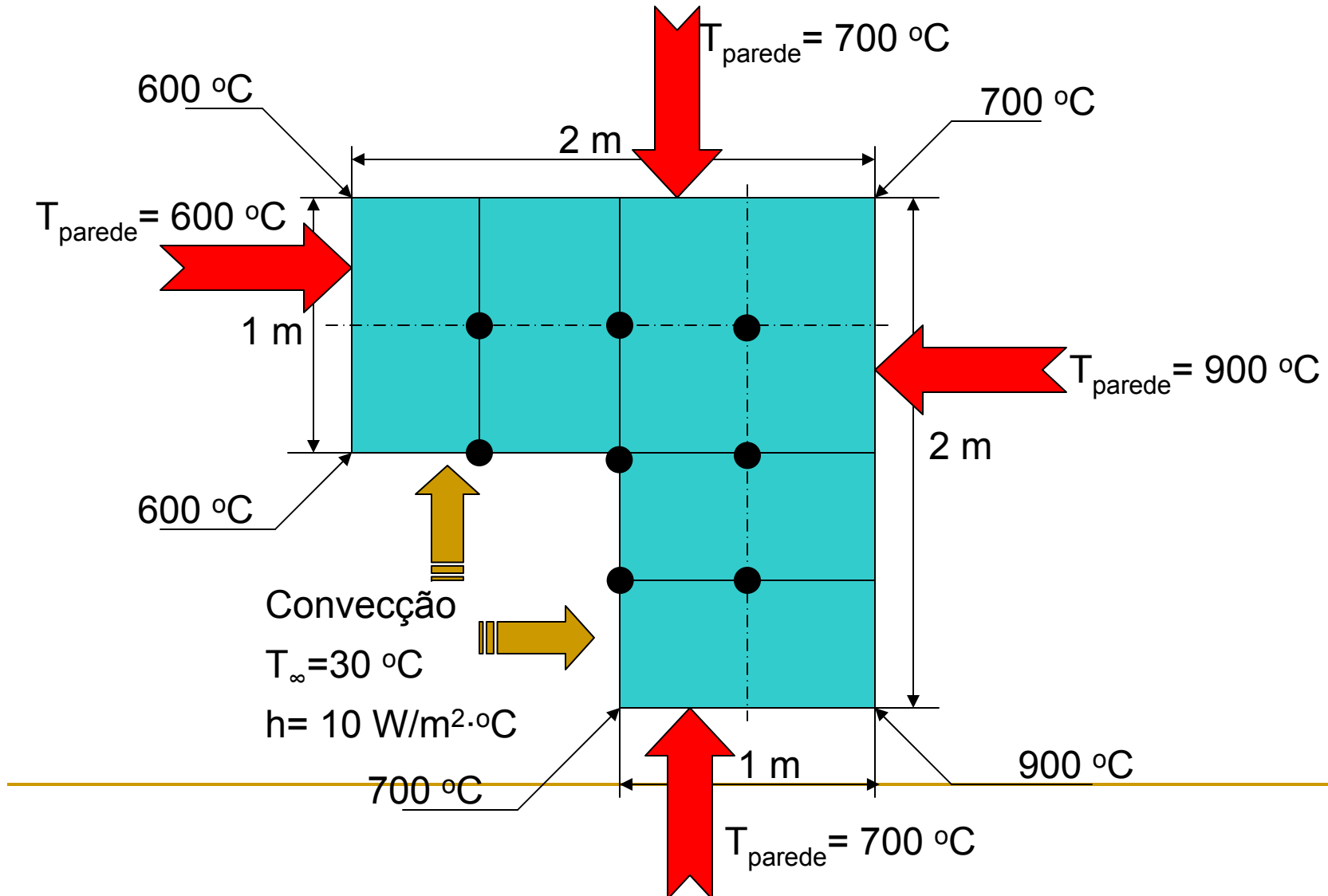
# Variante 14



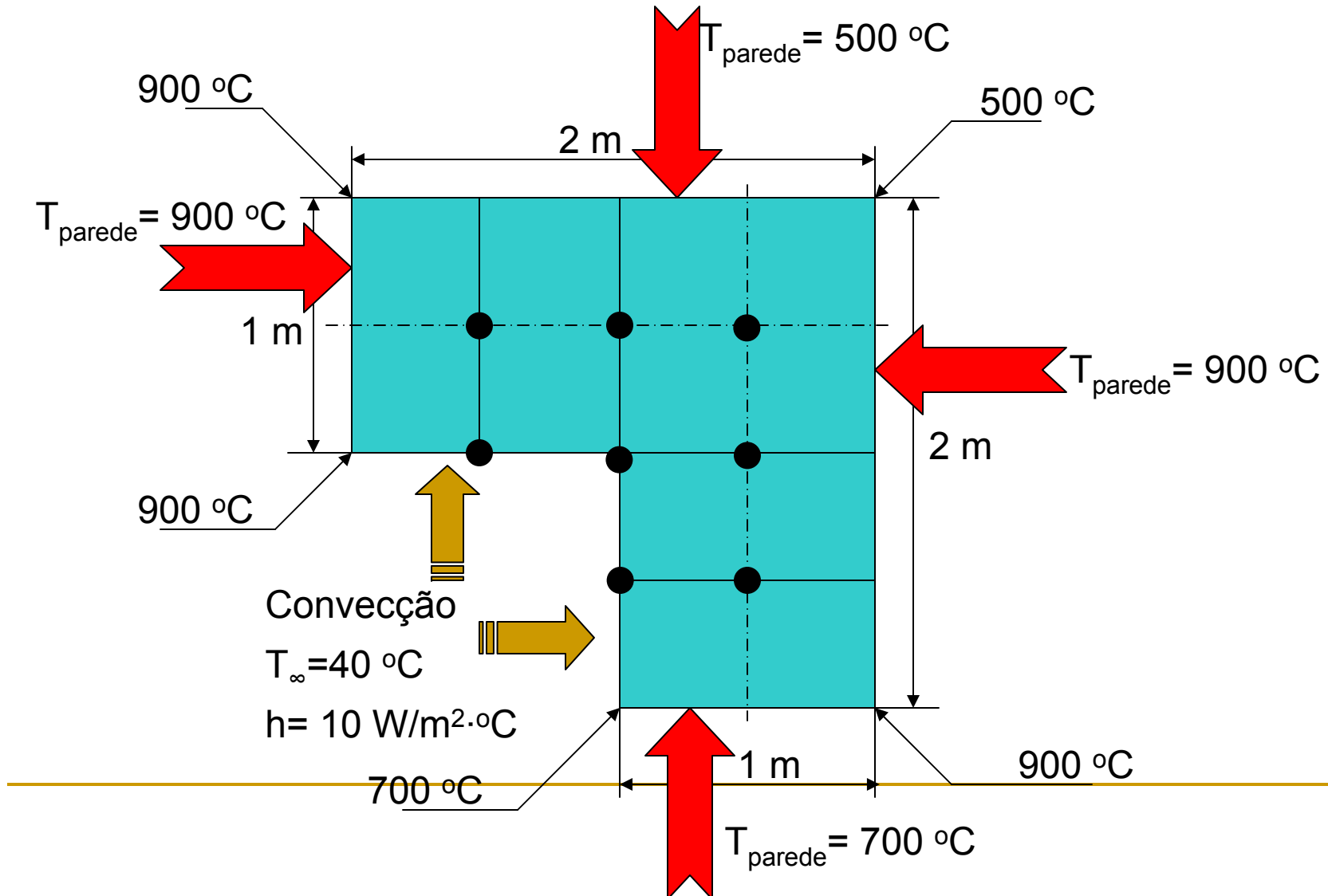
# Variante 15



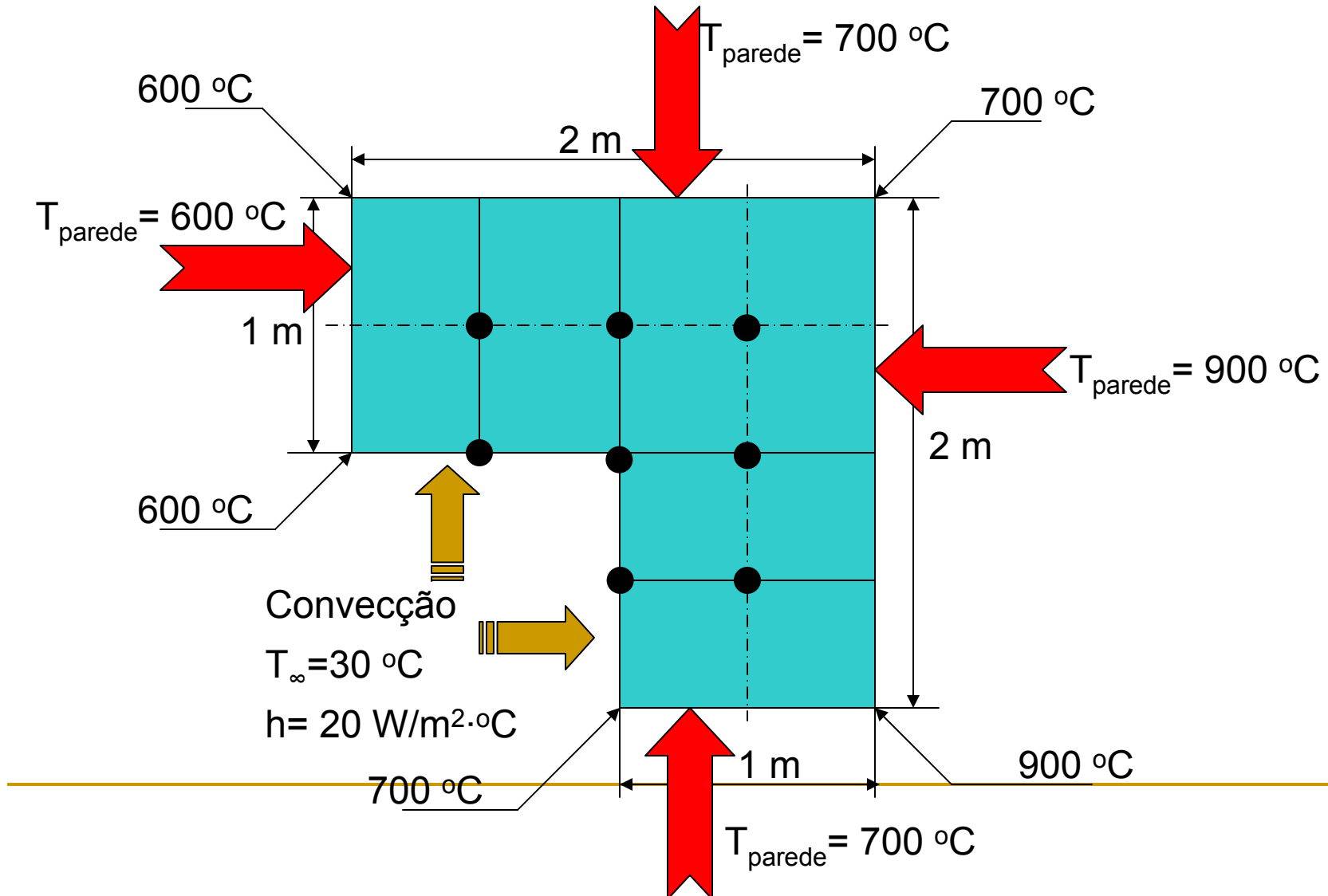
# Variante 16



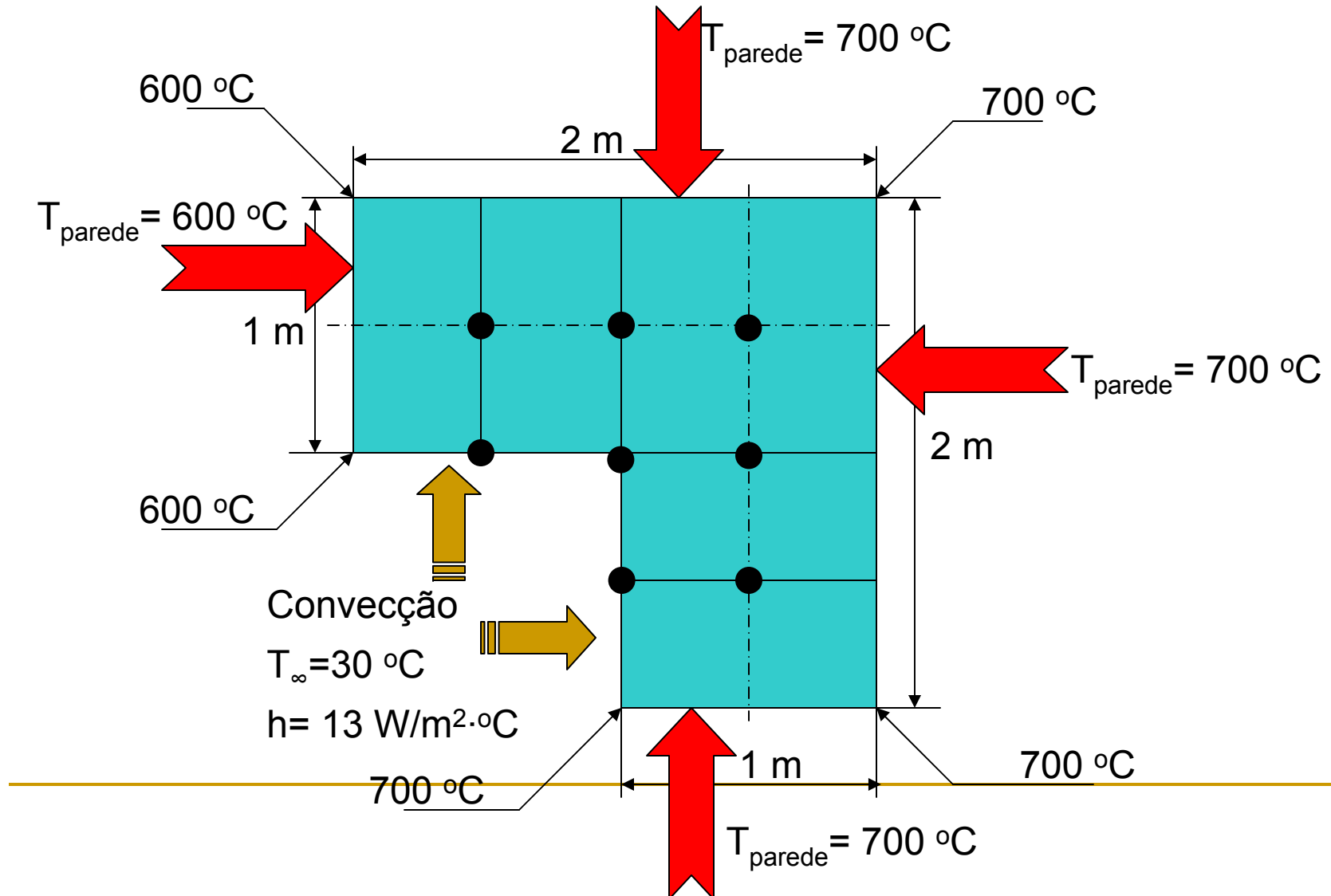
# Variante 17



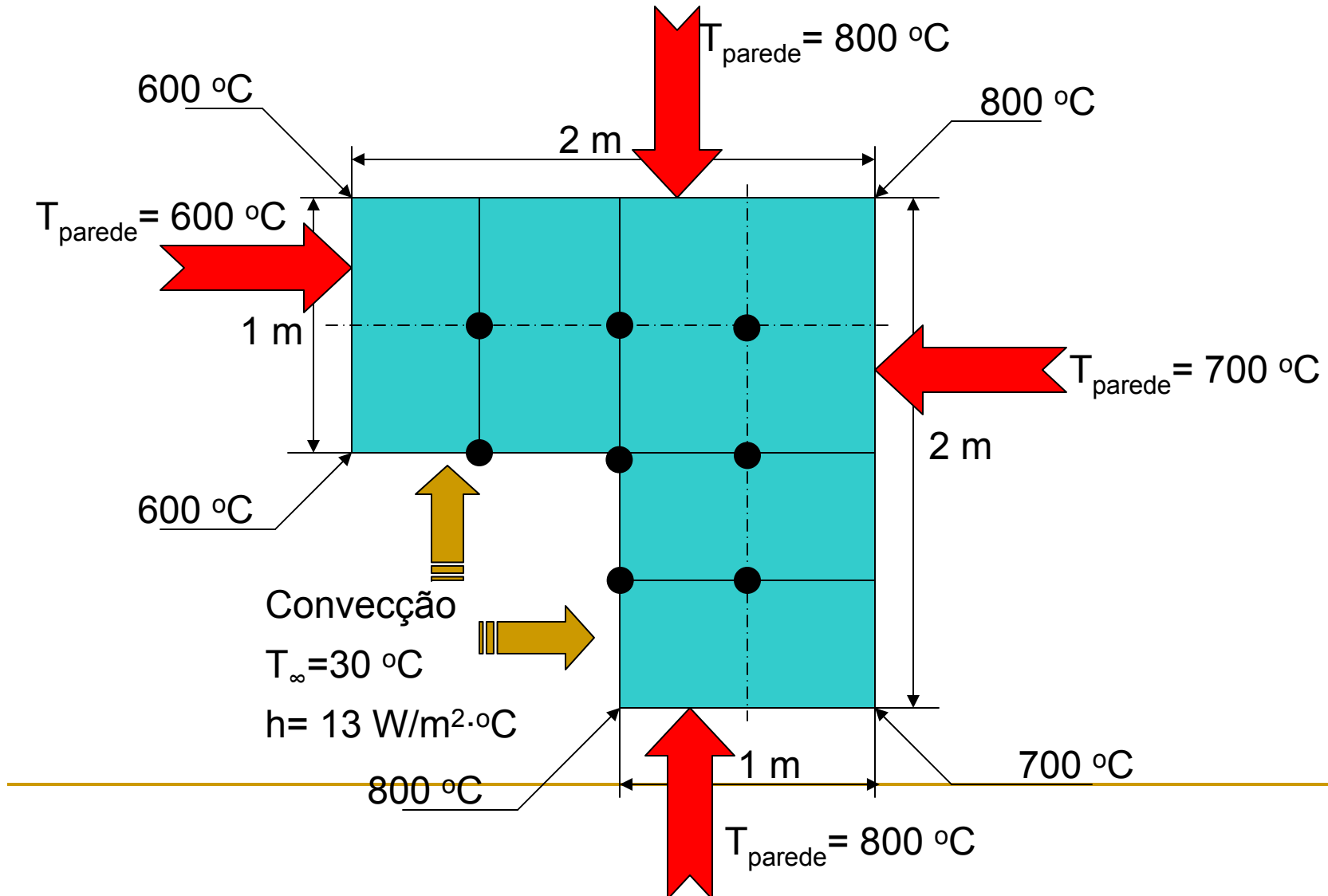
# Variante 18



# Variante 19



# Variante 20



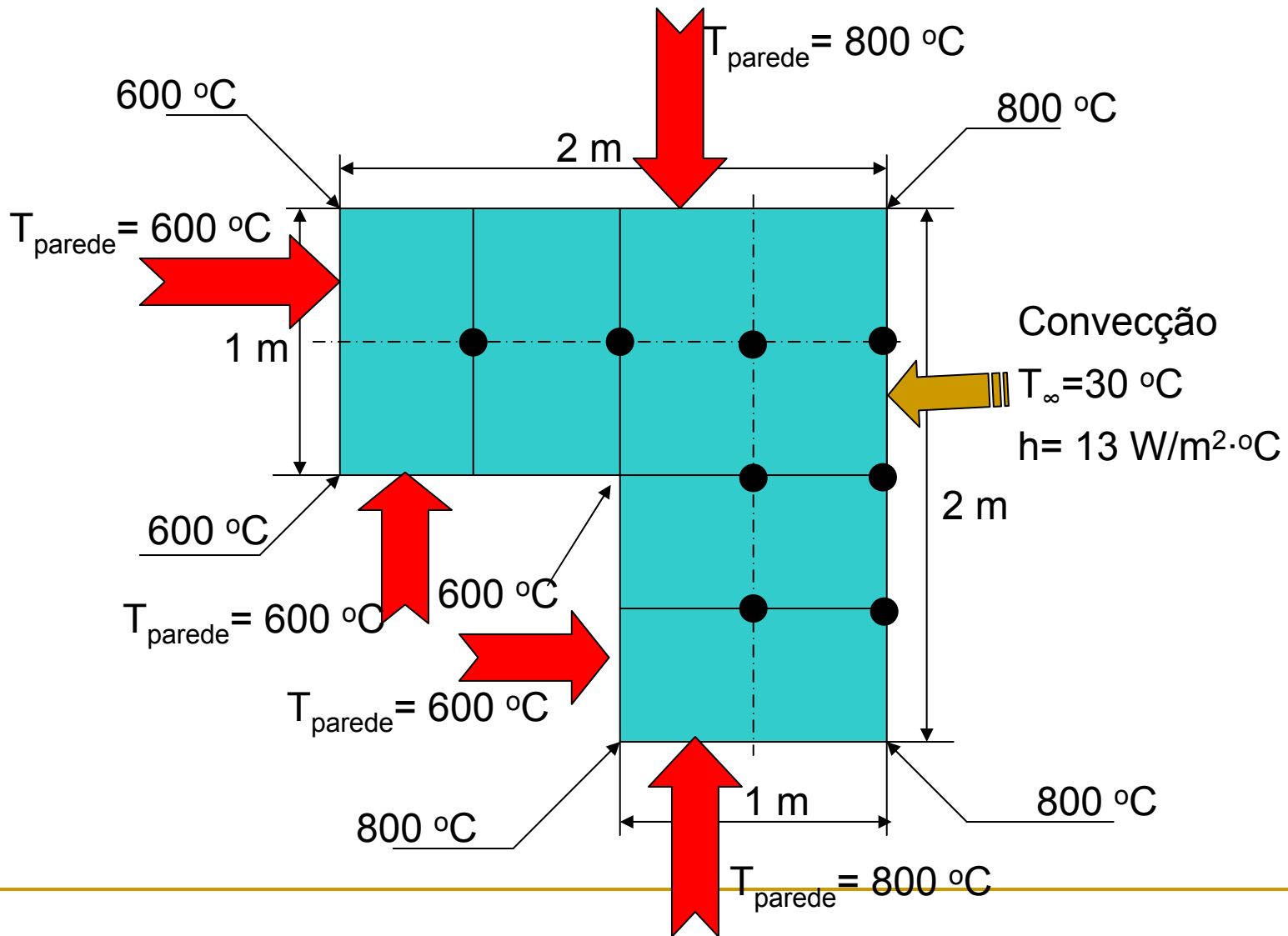
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# Problema III

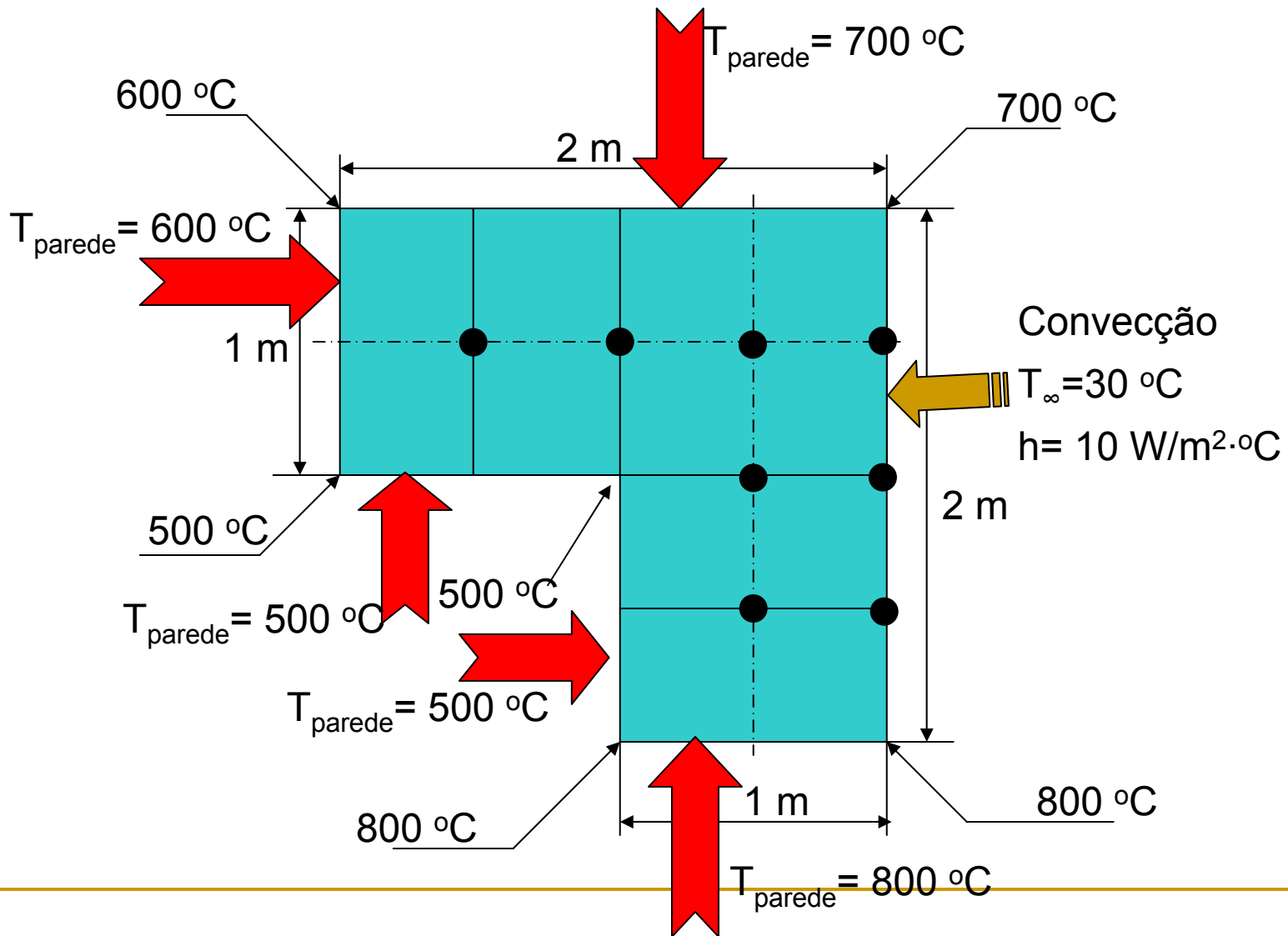
- Calcular as temperaturas dos nós assinalados a preto para uma placa de prata com as dimensões apresentadas na figura e as seguintes características:
  - Coeficiente de condutibilidade térmica 429 W/mk
  - Densidade 10500 kg/m<sup>3</sup>
  - Calor específico 235 J/kgK
- Variantes 21,22,23,24,25,26,27,28,29,30.



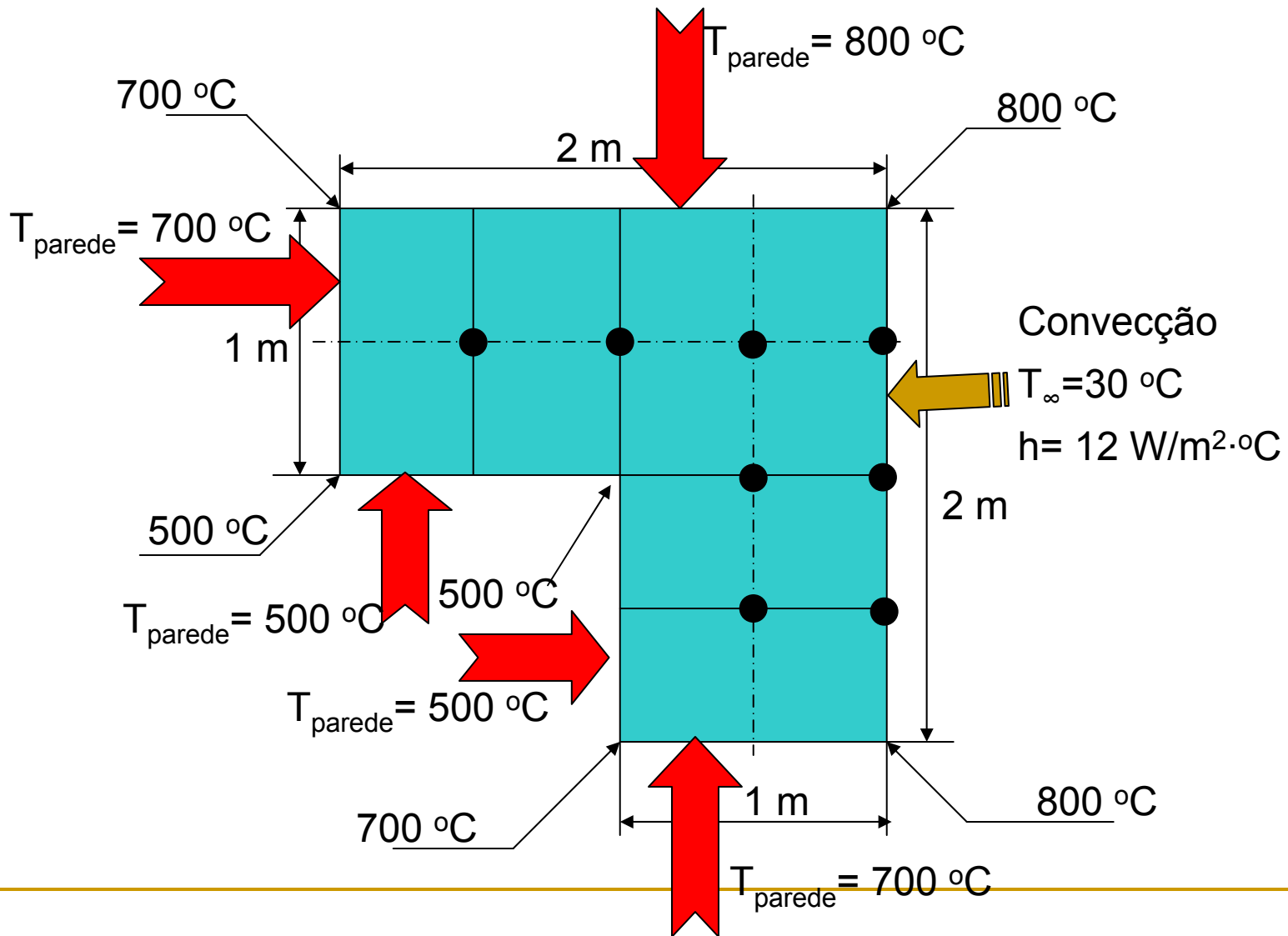
# Variante 21



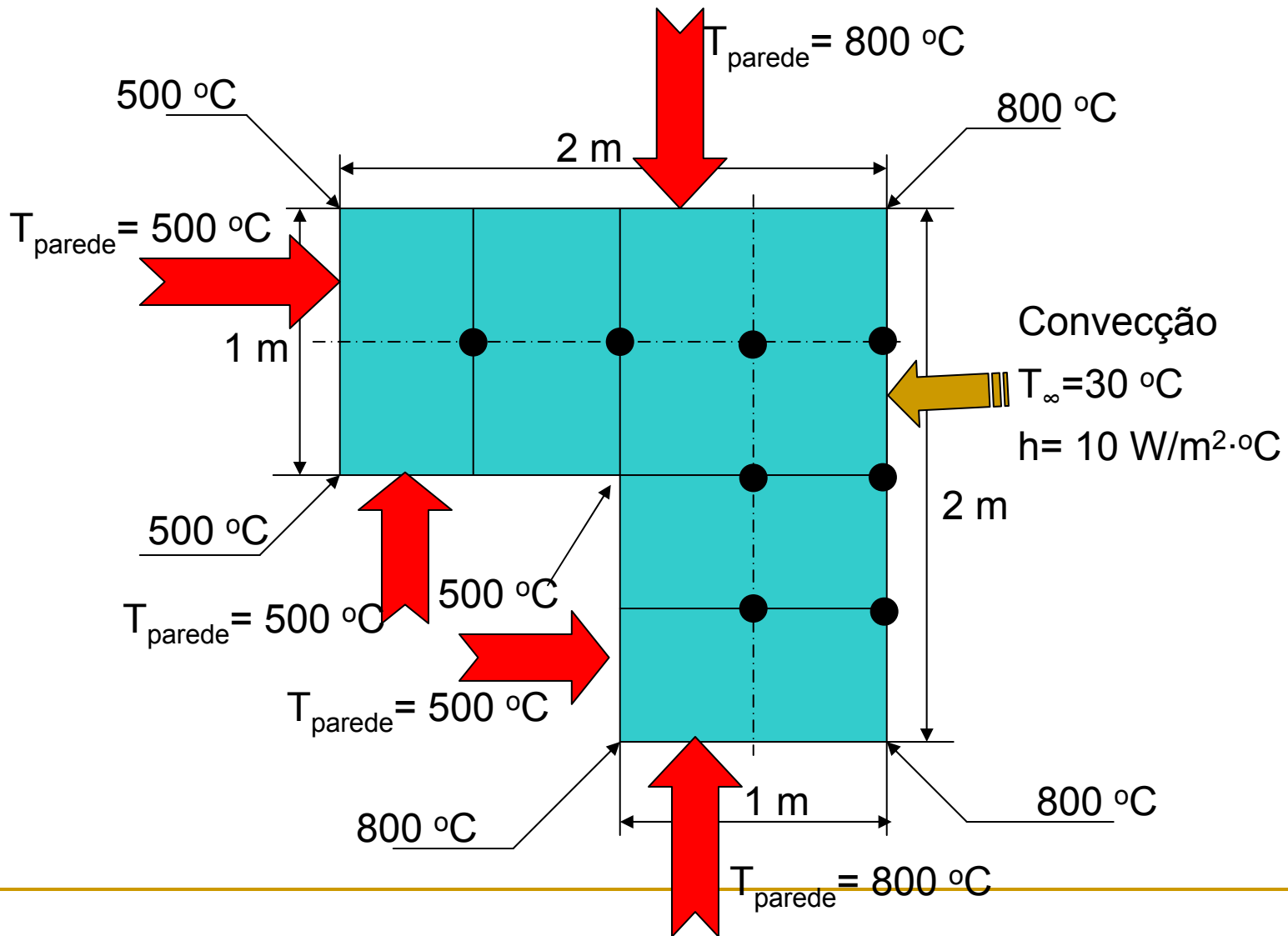
# Variante 22



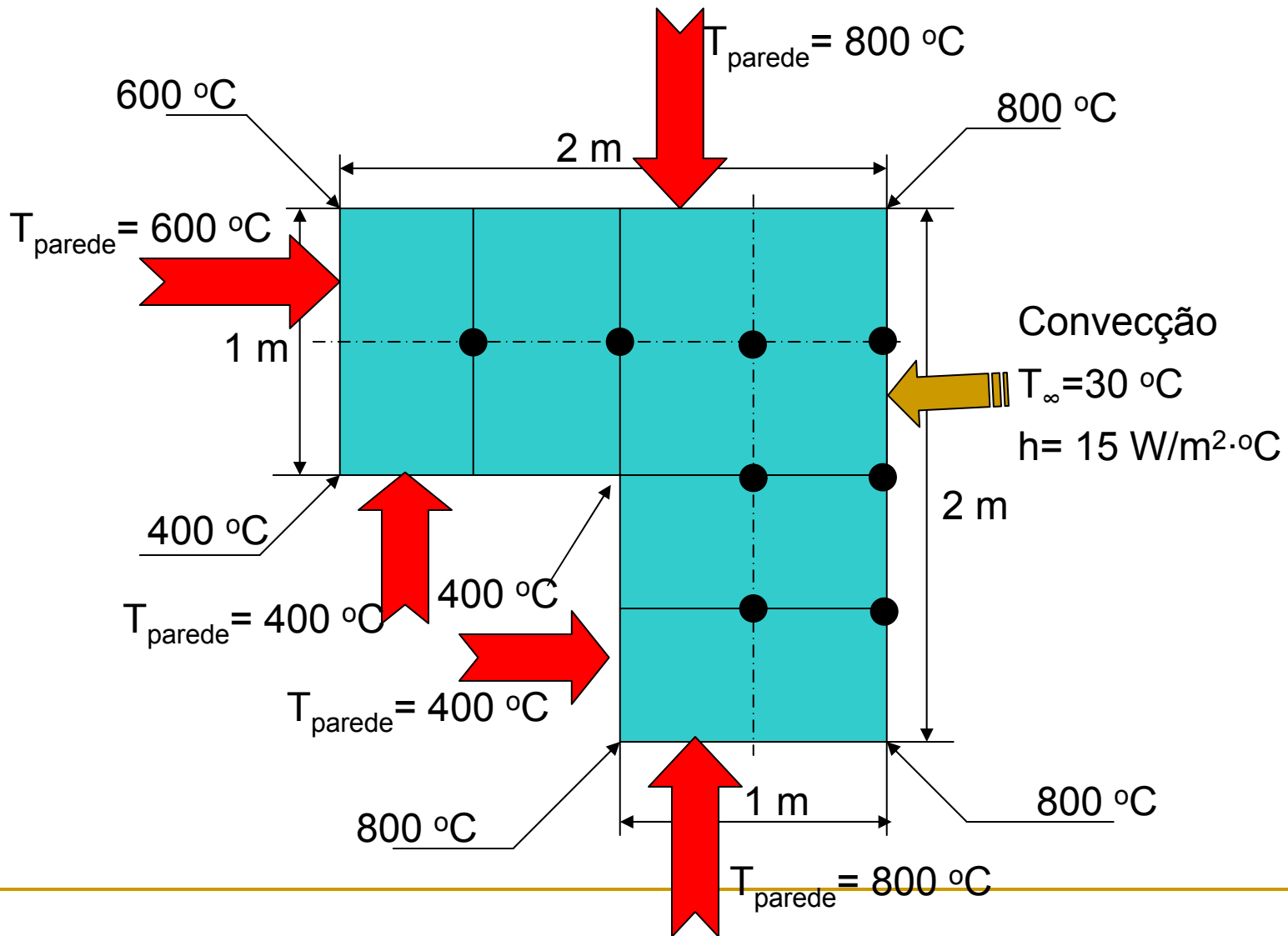
# Variante 23



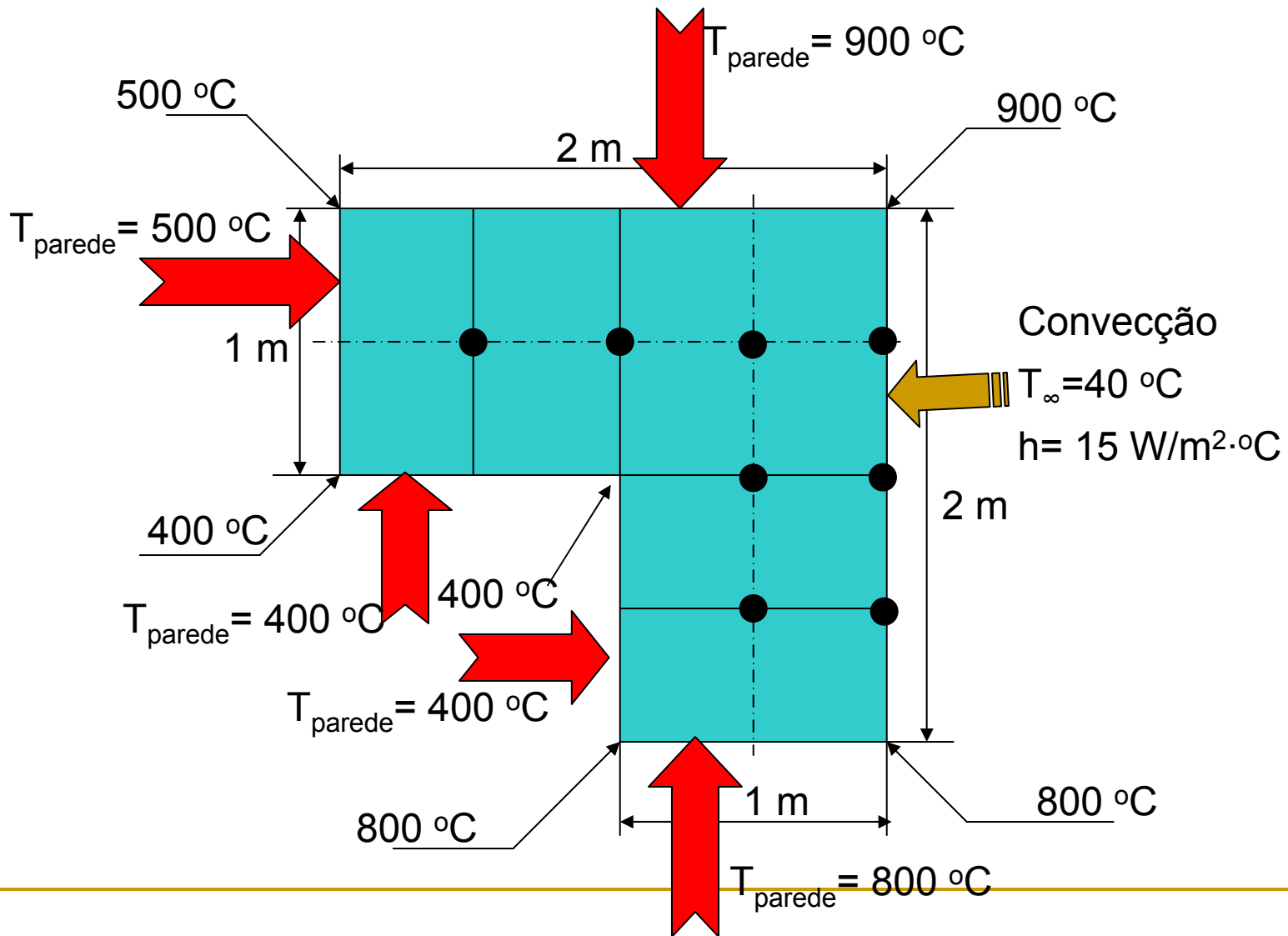
# Variante 24



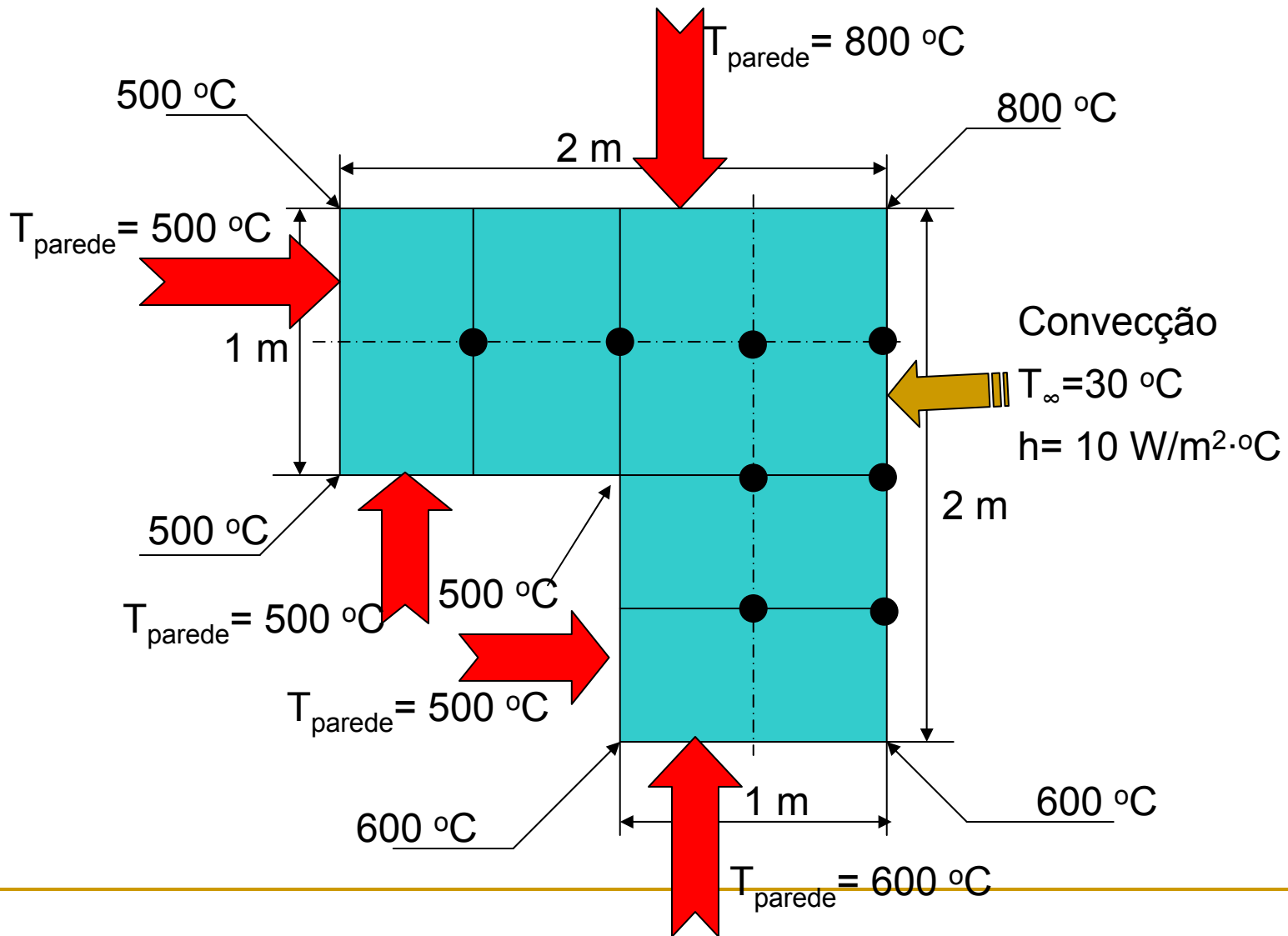
# Variante 25



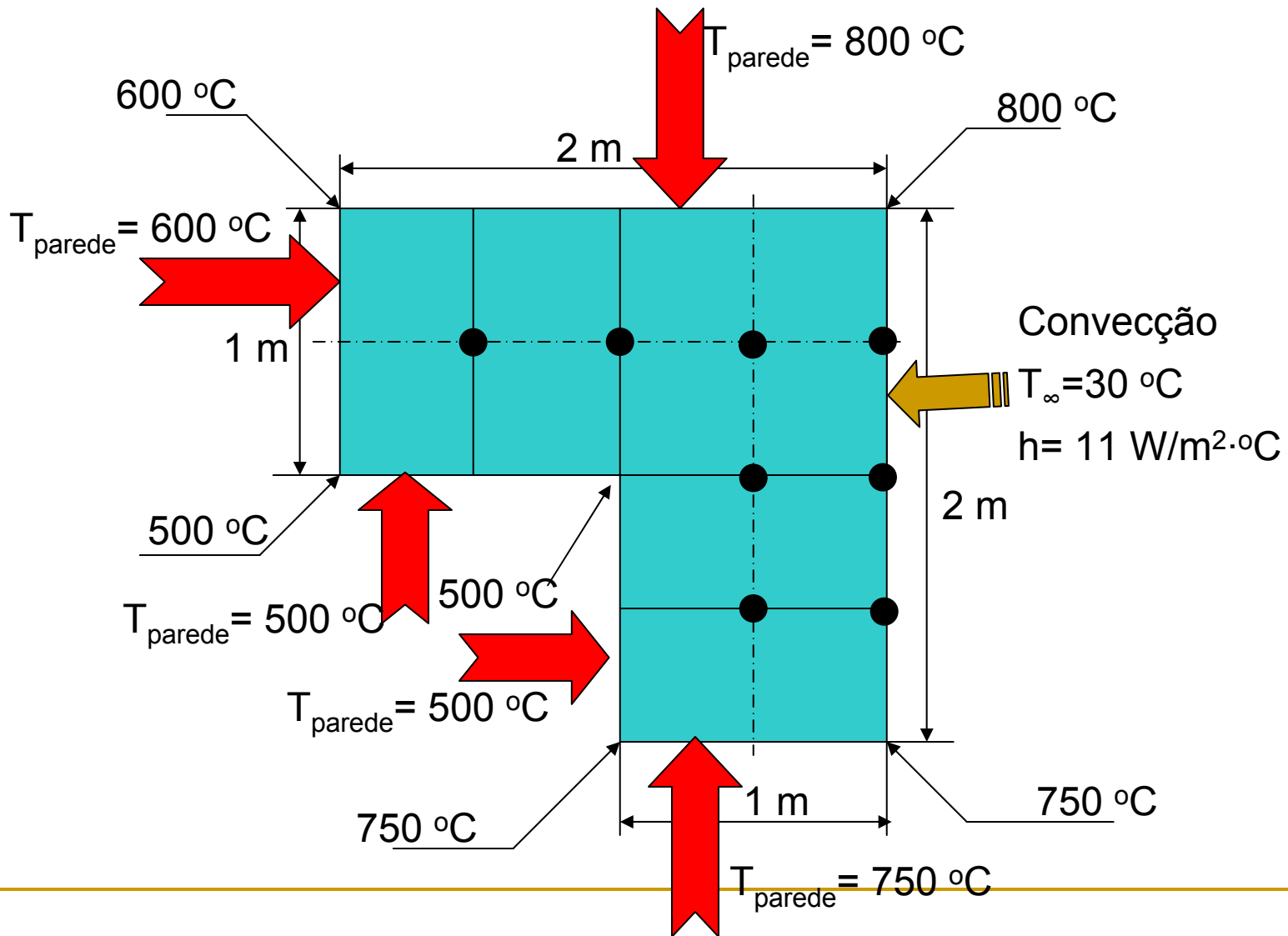
# Variante 26



# Variante 27

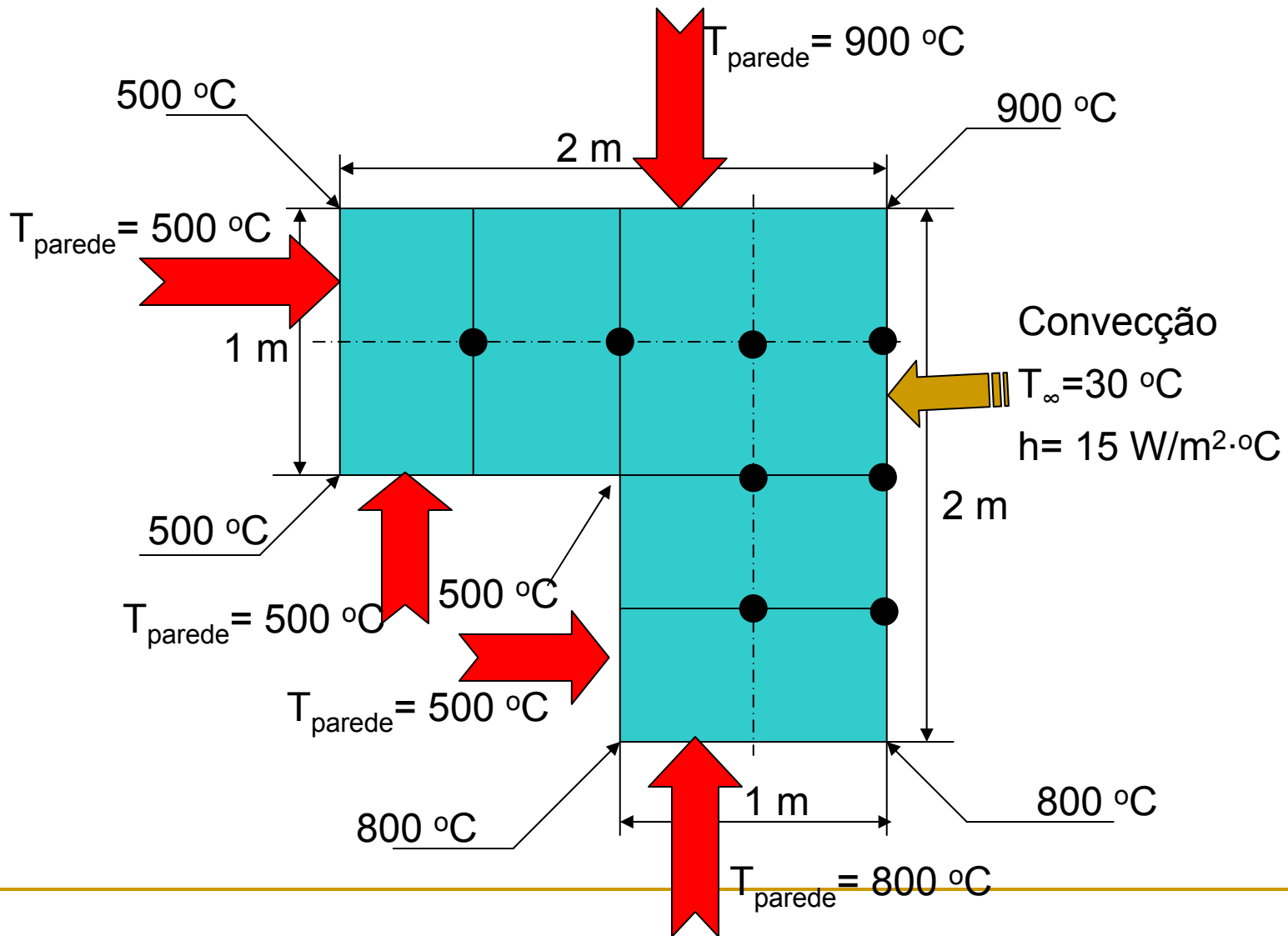


# Variante 28

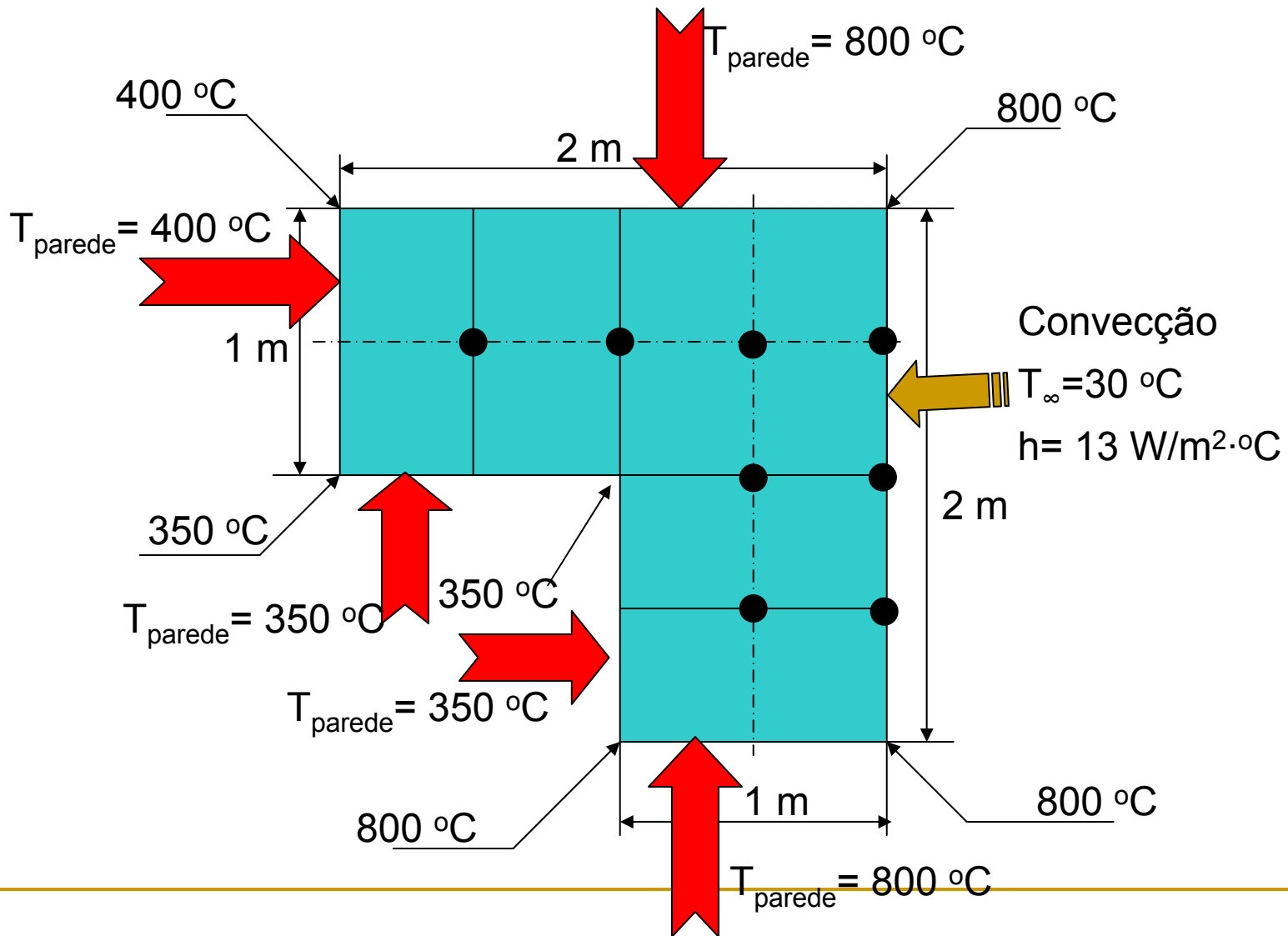




# Variante 29



# Variante 30

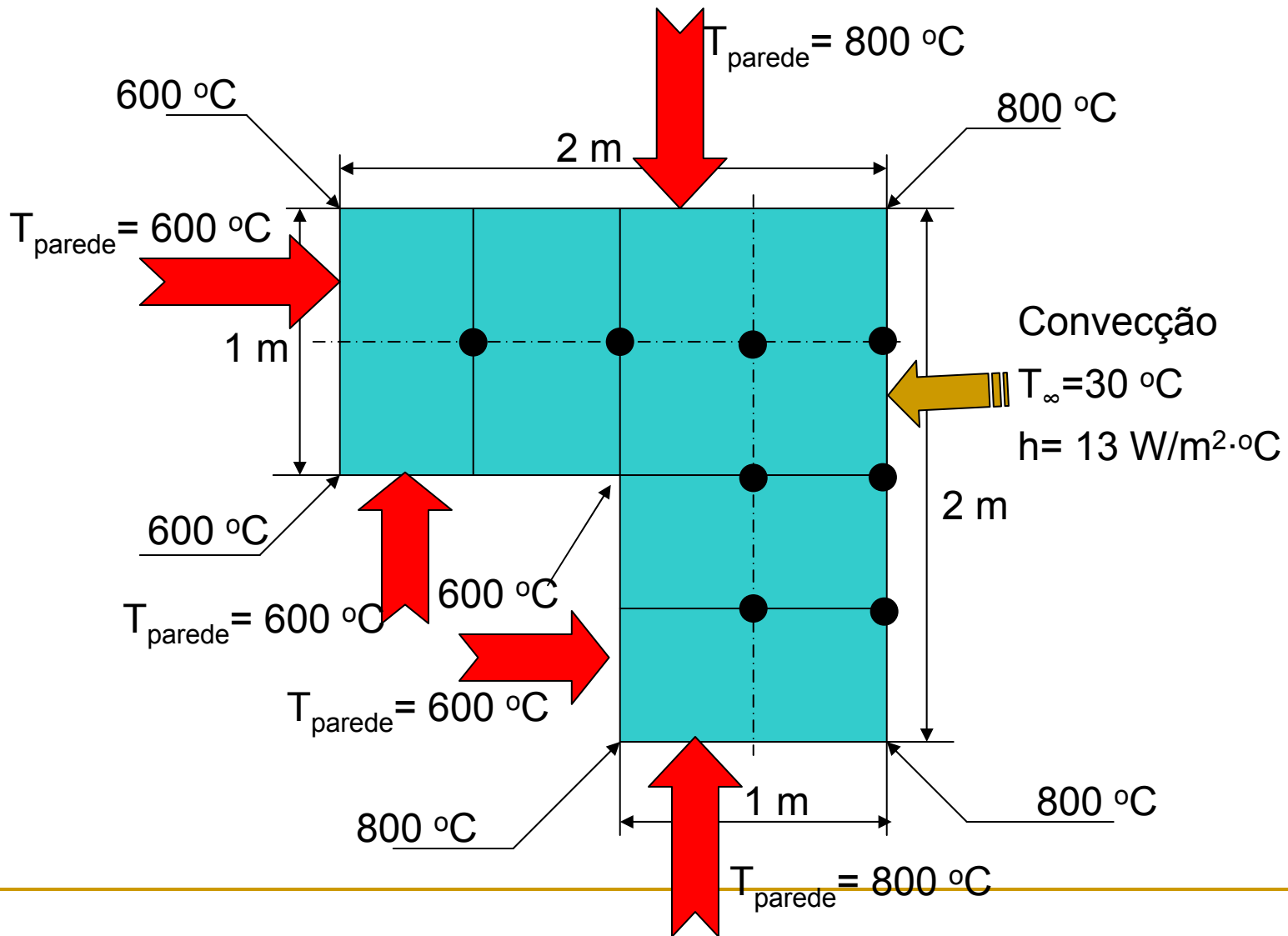


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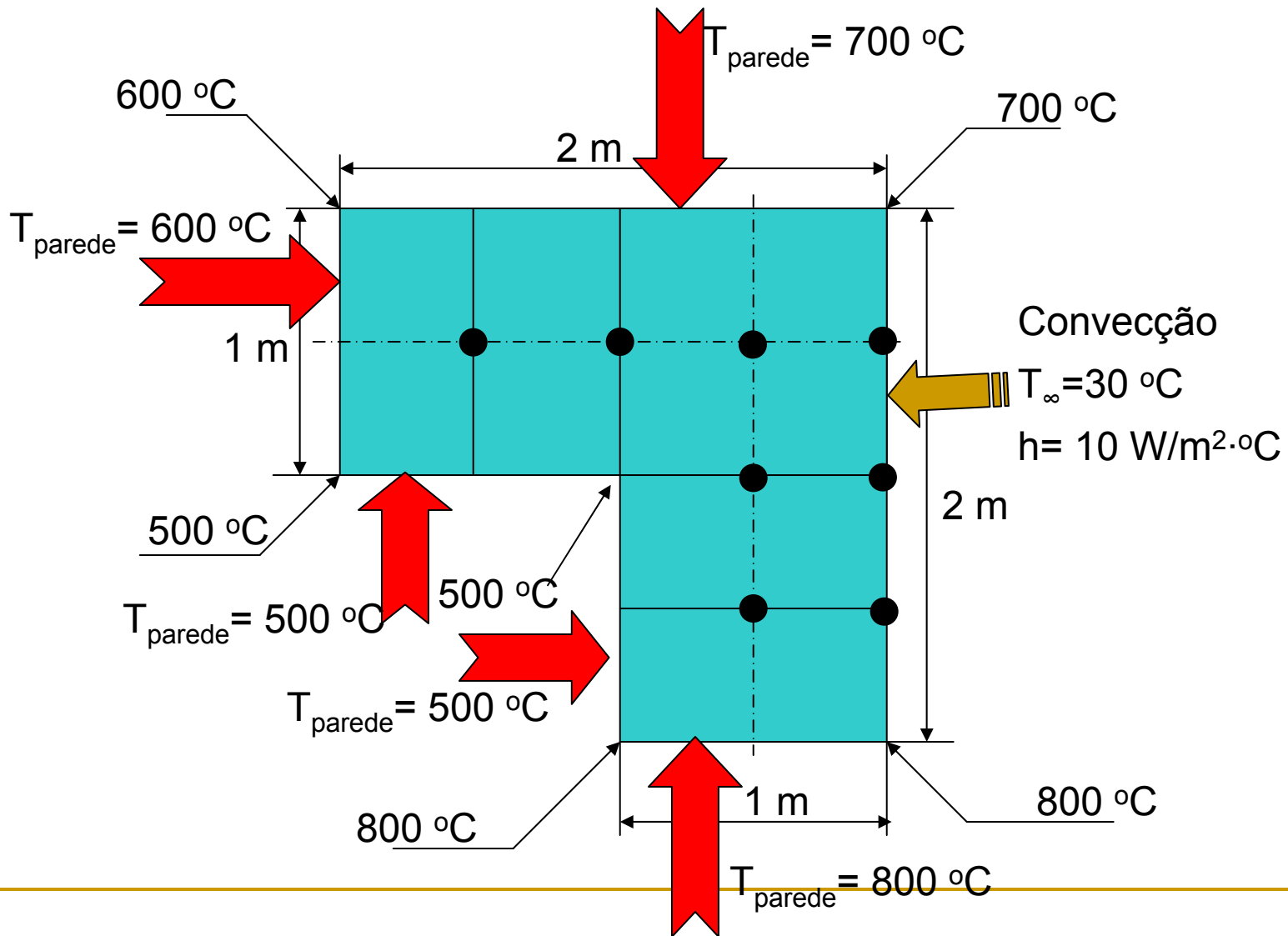
# Problema IV

- Calcular as temperaturas dos nós assinalados a preto para uma placa de aço com as dimensões apresentadas na figura e as seguintes características:
  - Coeficiente de condutibilidade térmica  $60,5 \text{ W/mk}$
  - Densidade  $7854 \text{ kg/m}^3$
  - Calor específico  $434 \text{ J/kgK}$
- Variantes 31,32,33,34,35,36,37,38,39,40.

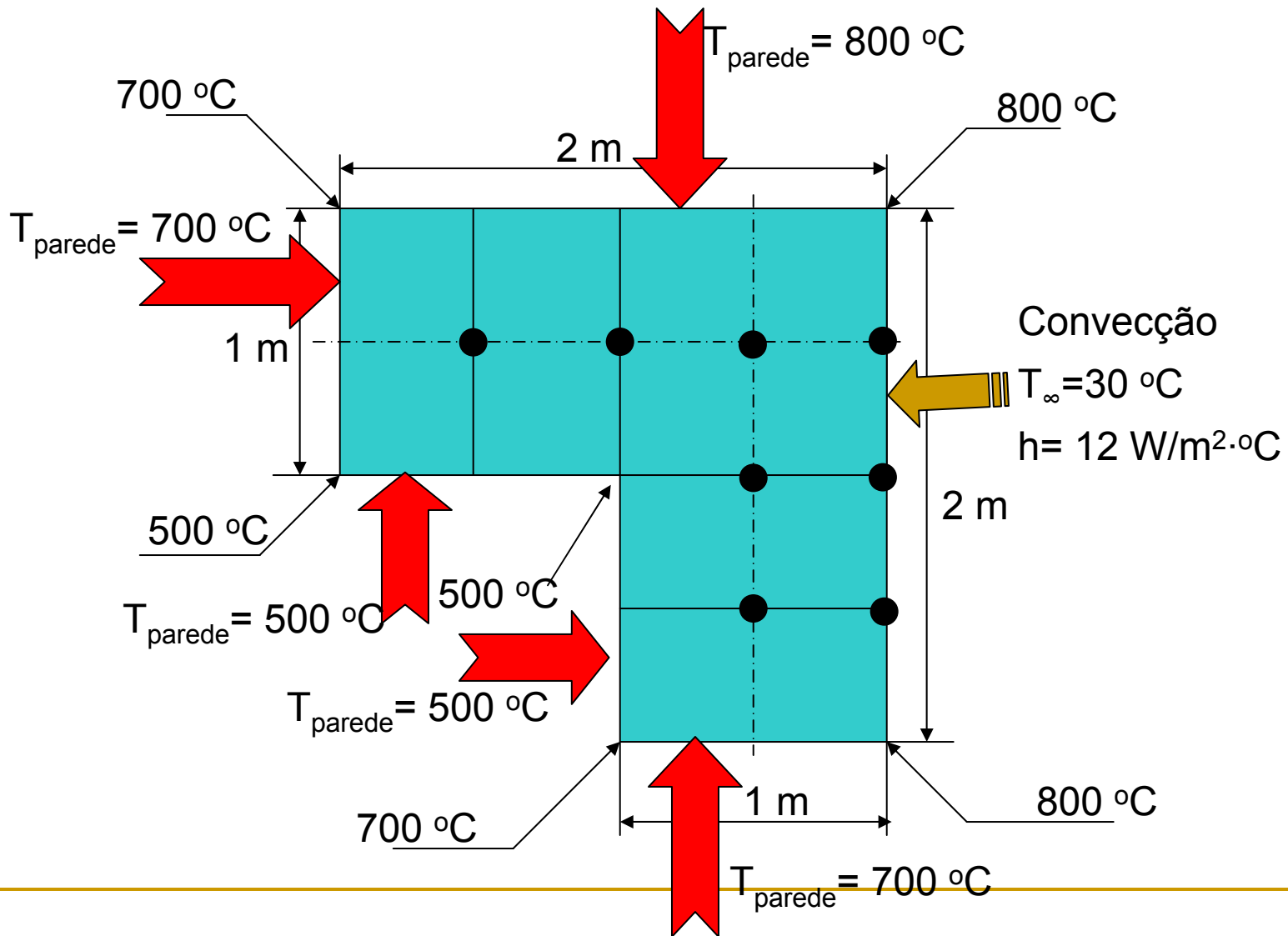
# Variante 31



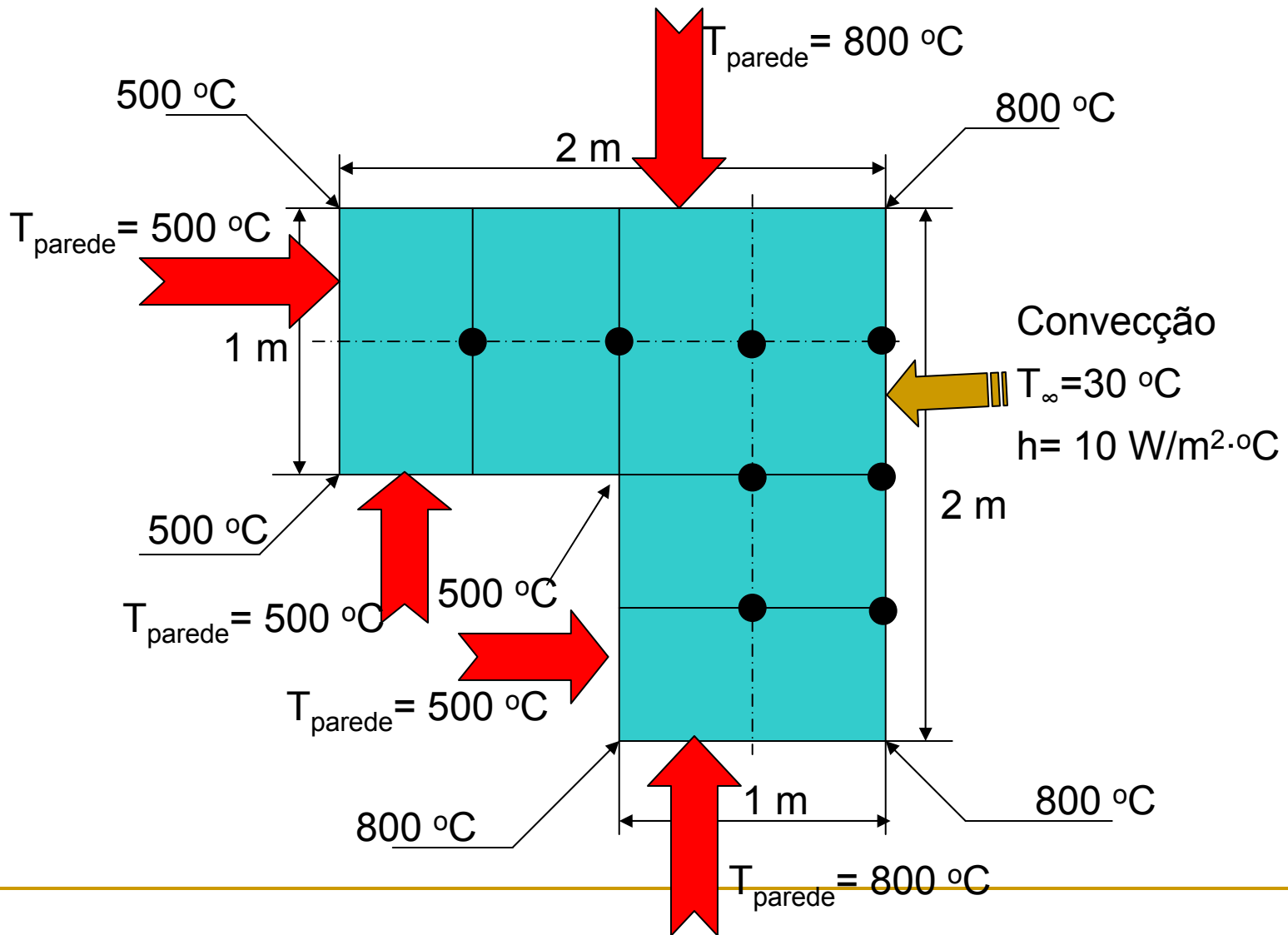
# Variante 32



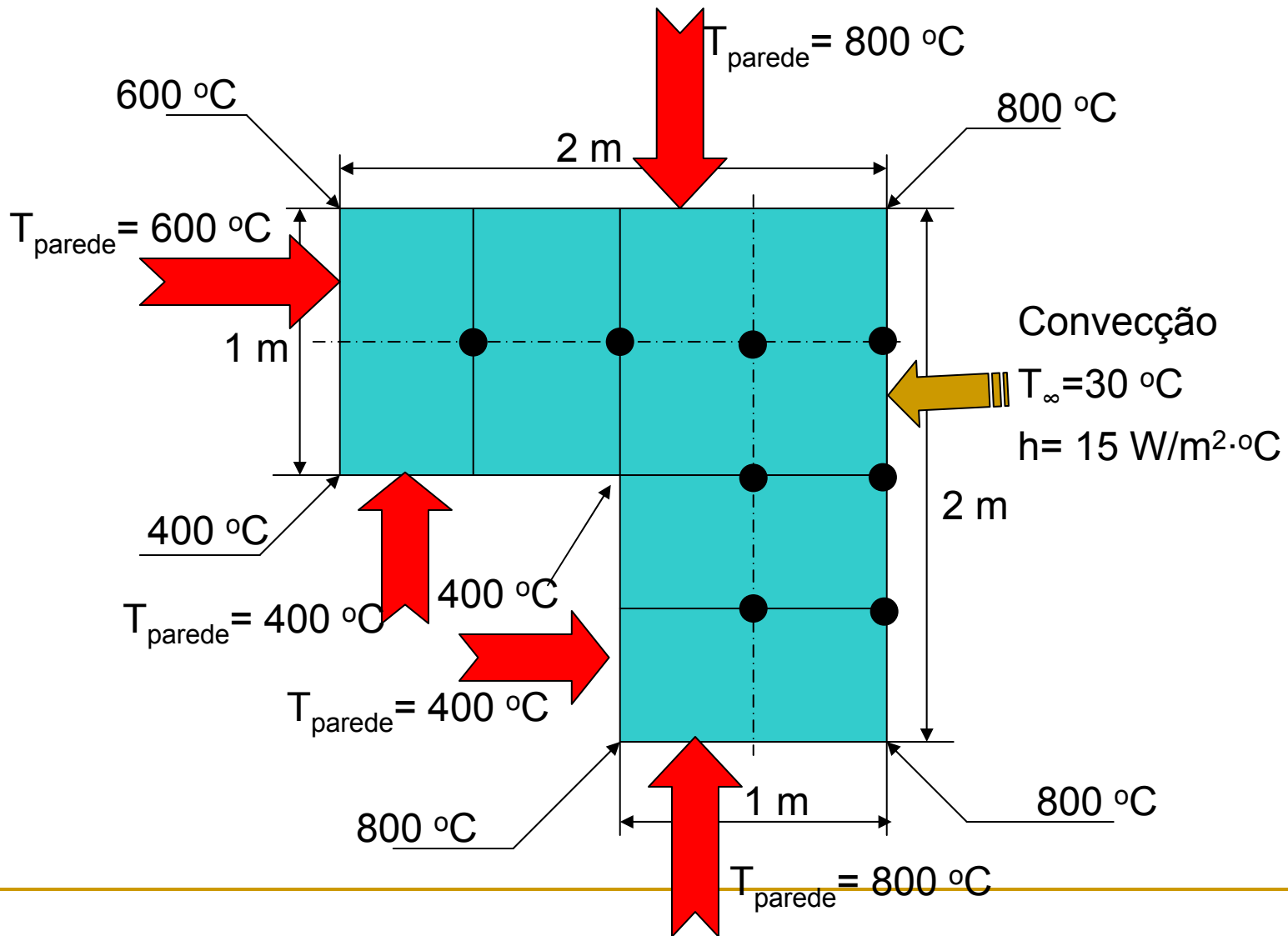
# Variante 33



# Variante 34

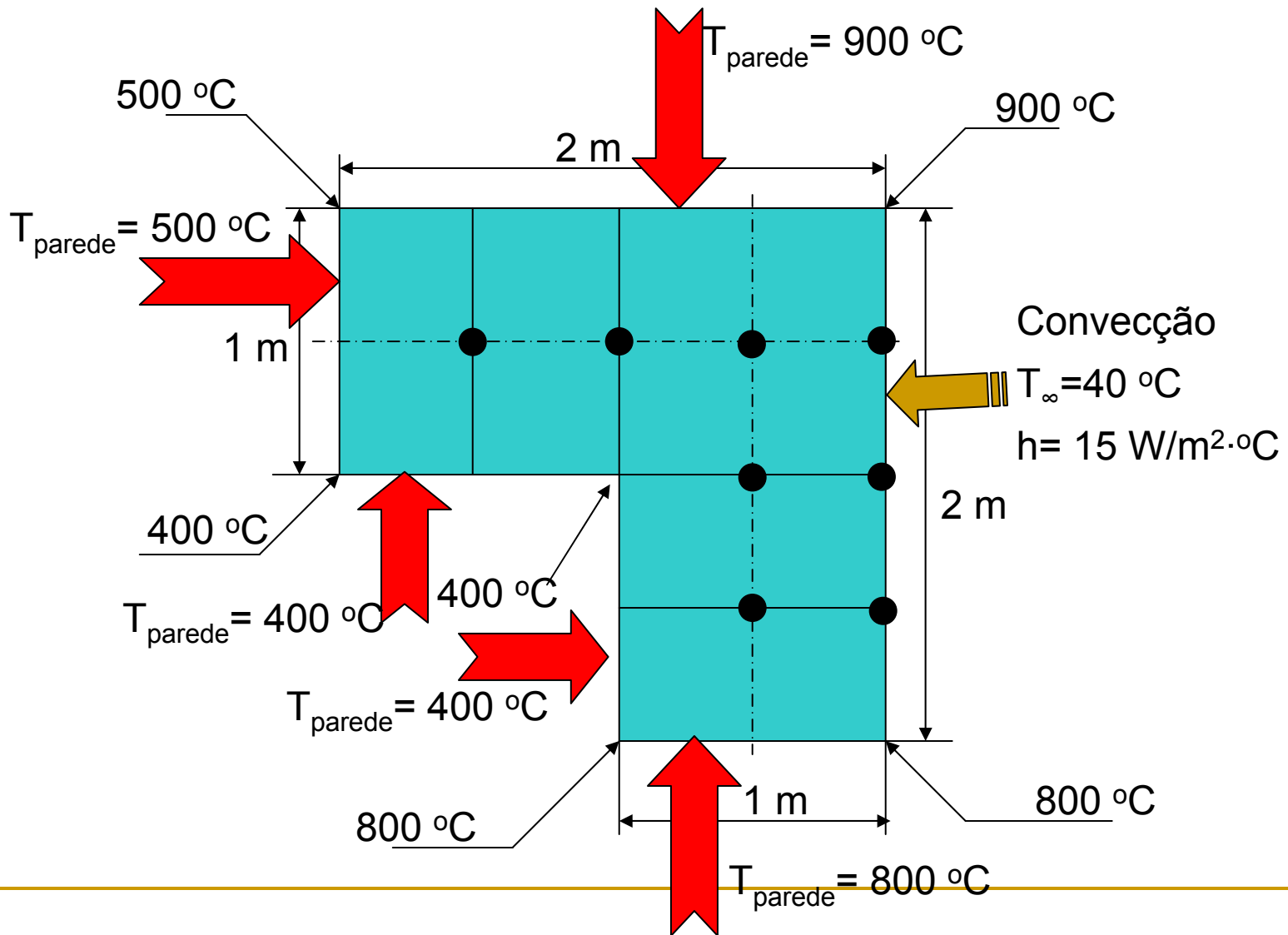


# Variante 35

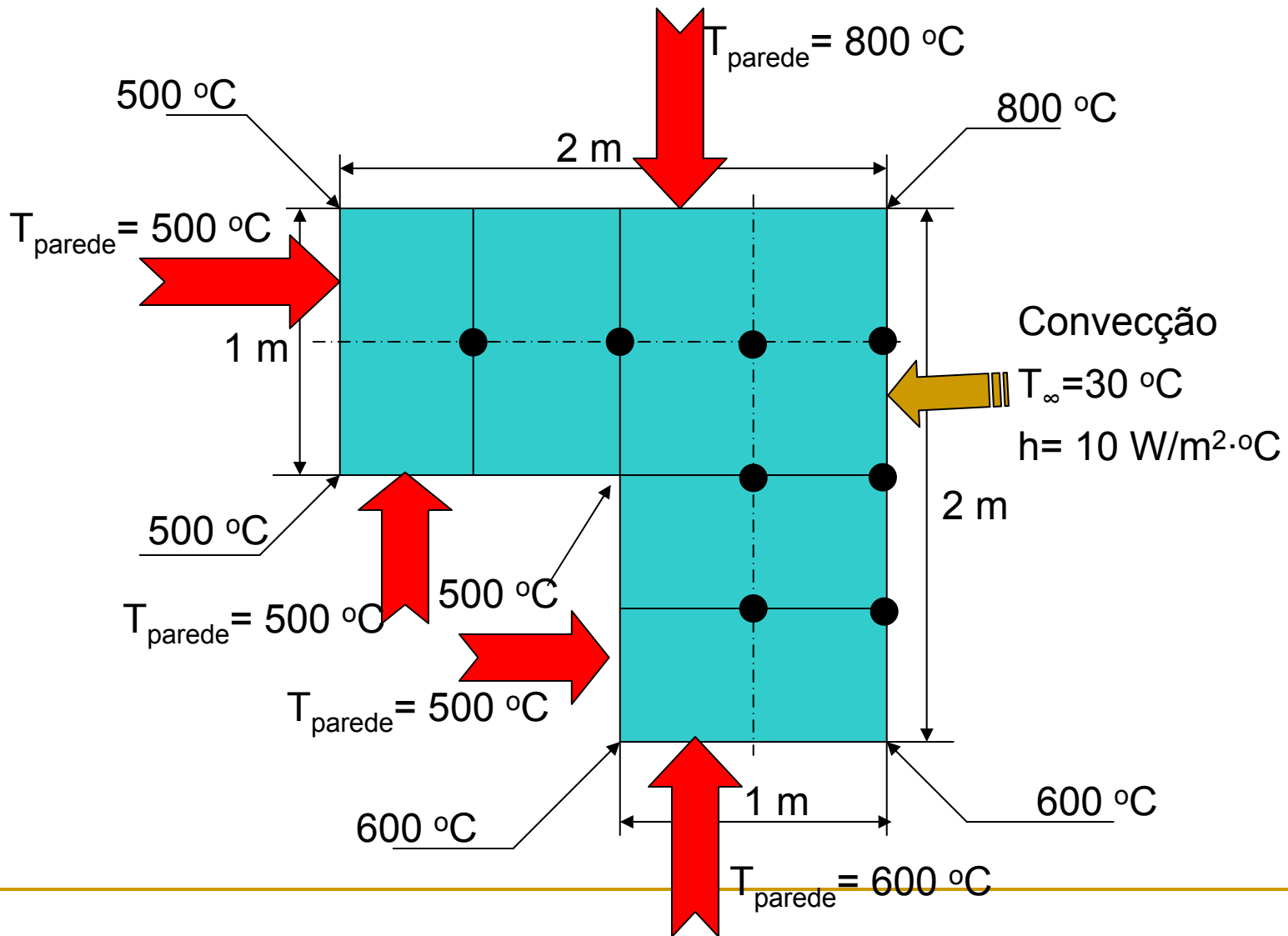




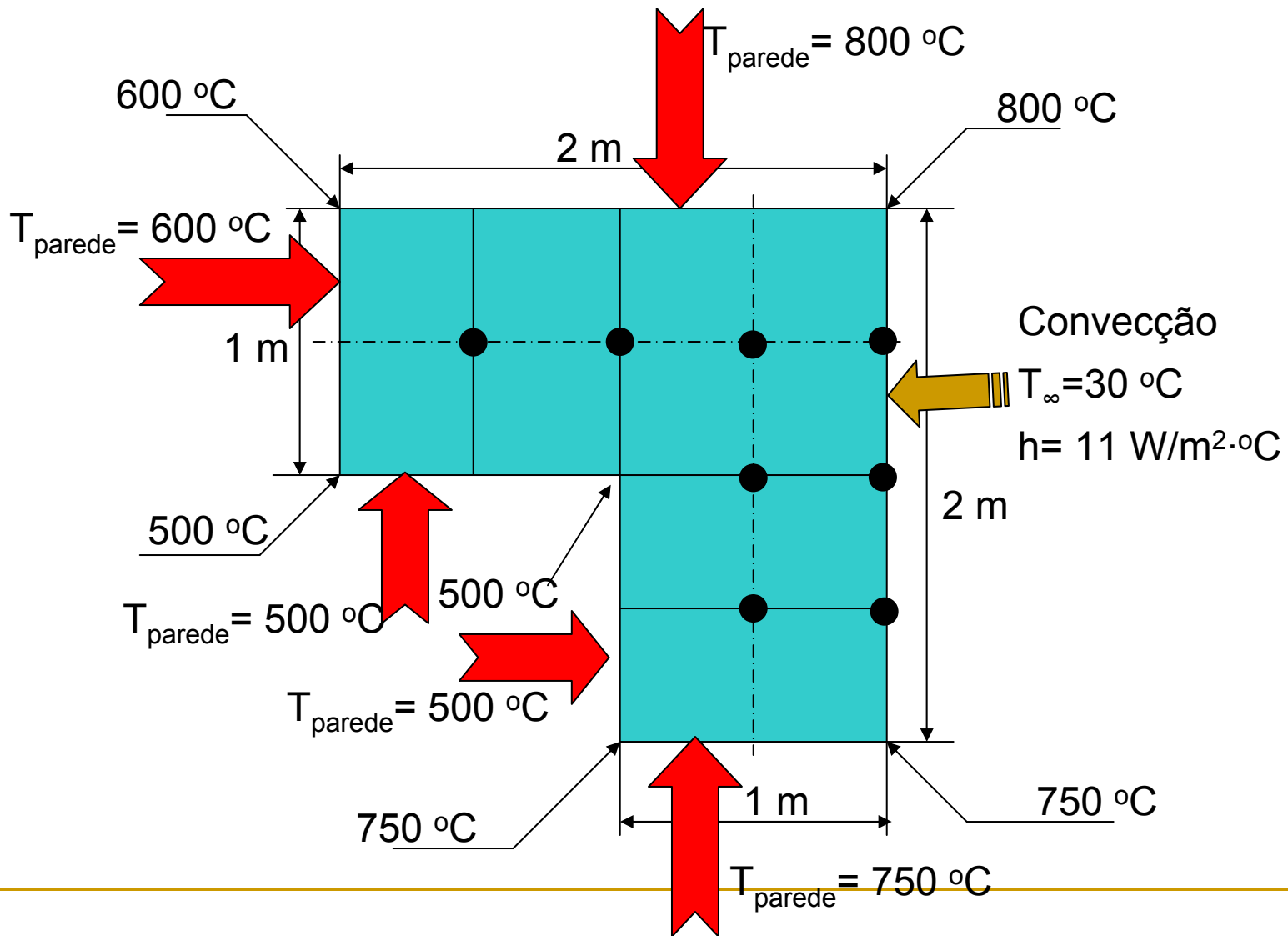
# Variante 36



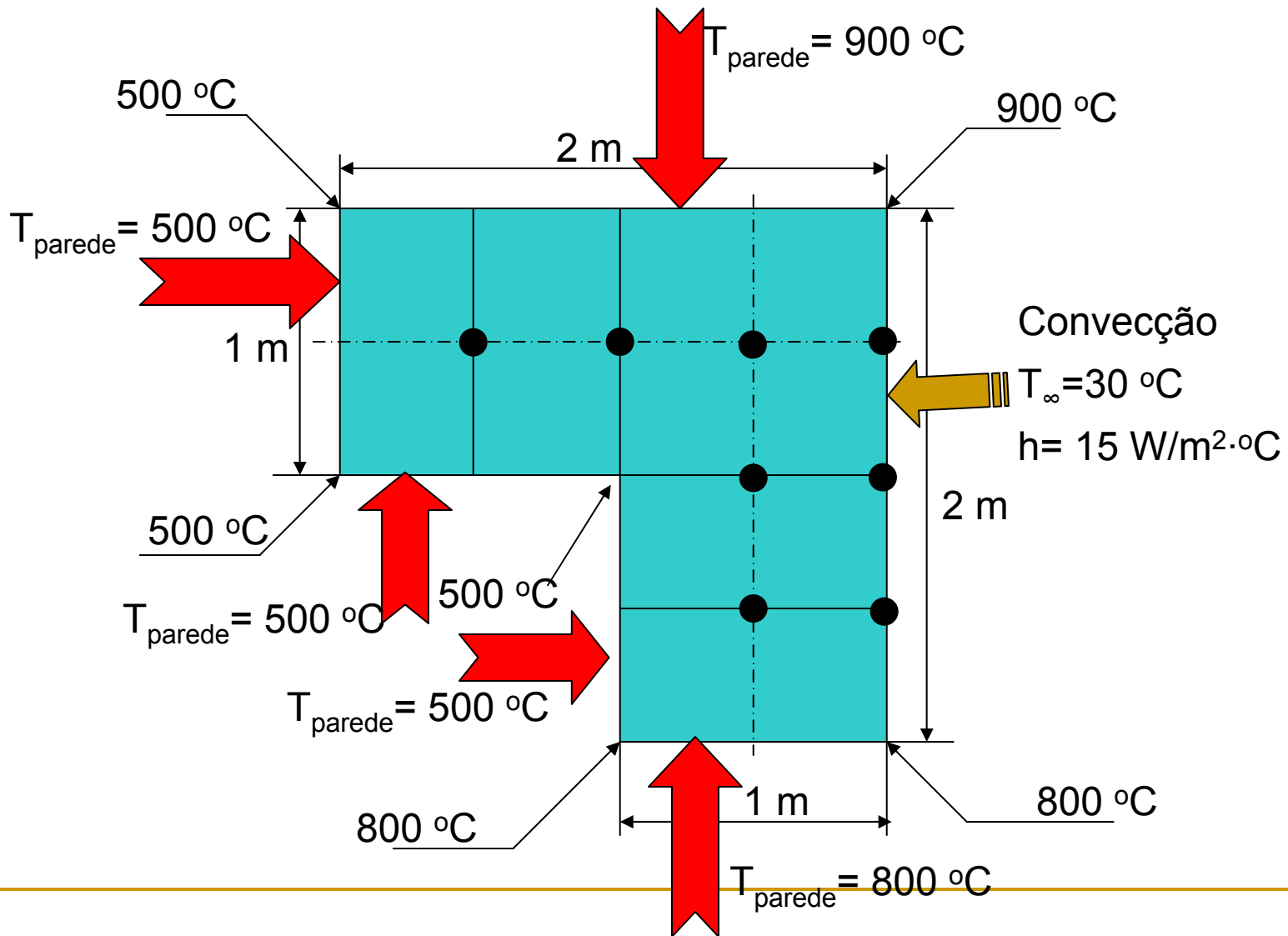
# Variante 37



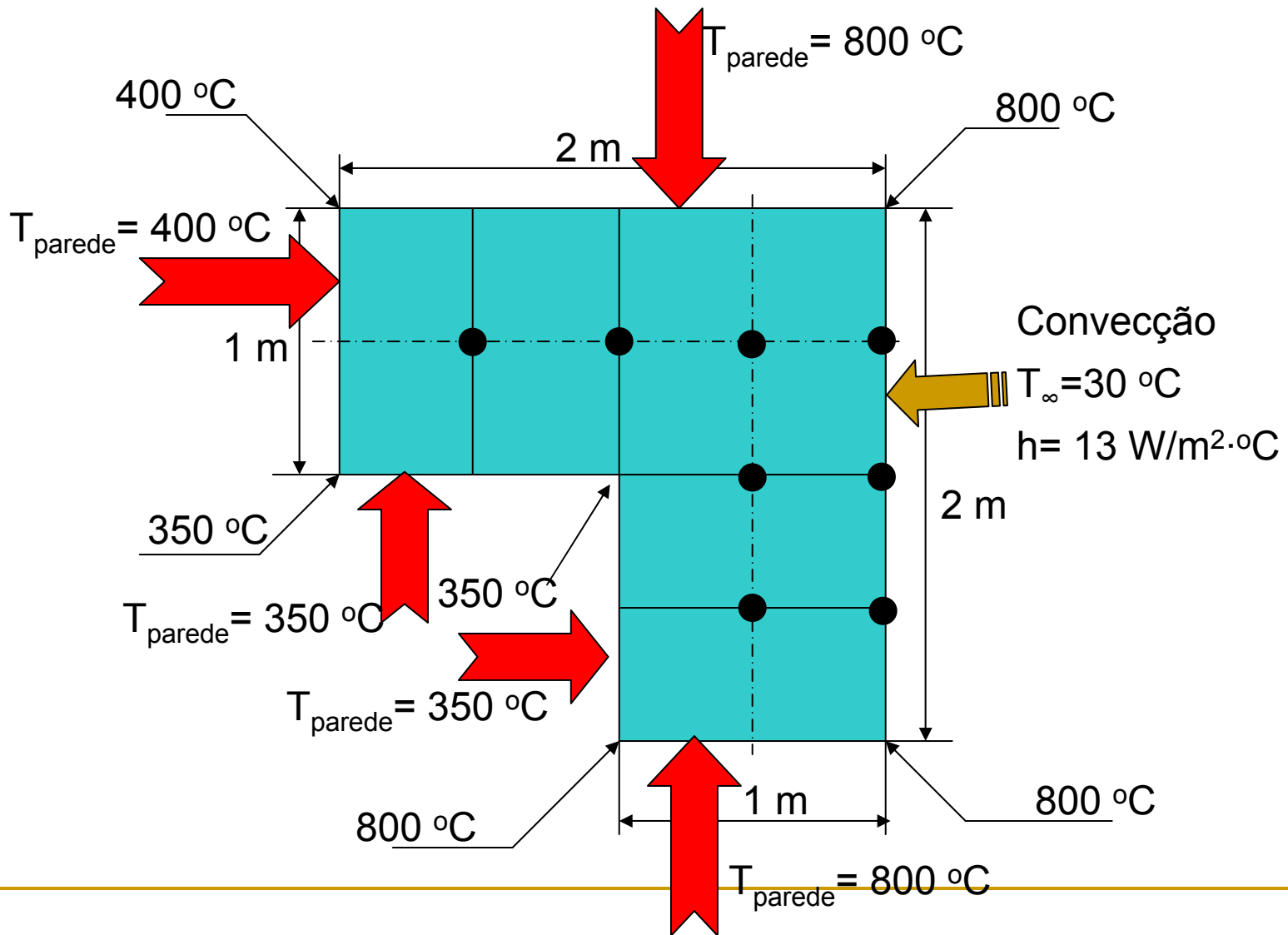
# Variante 38



# Variante 39



# Variante 40

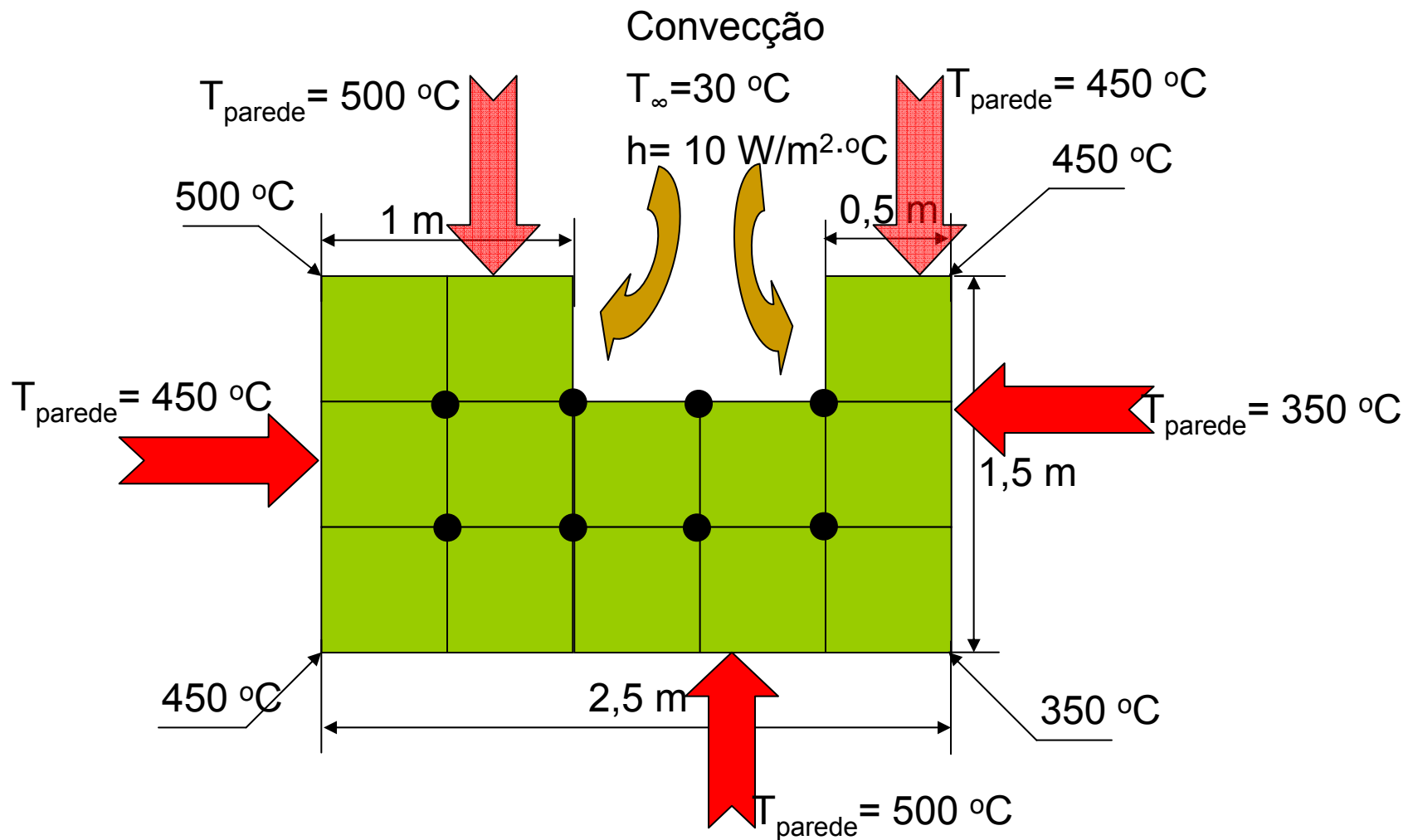


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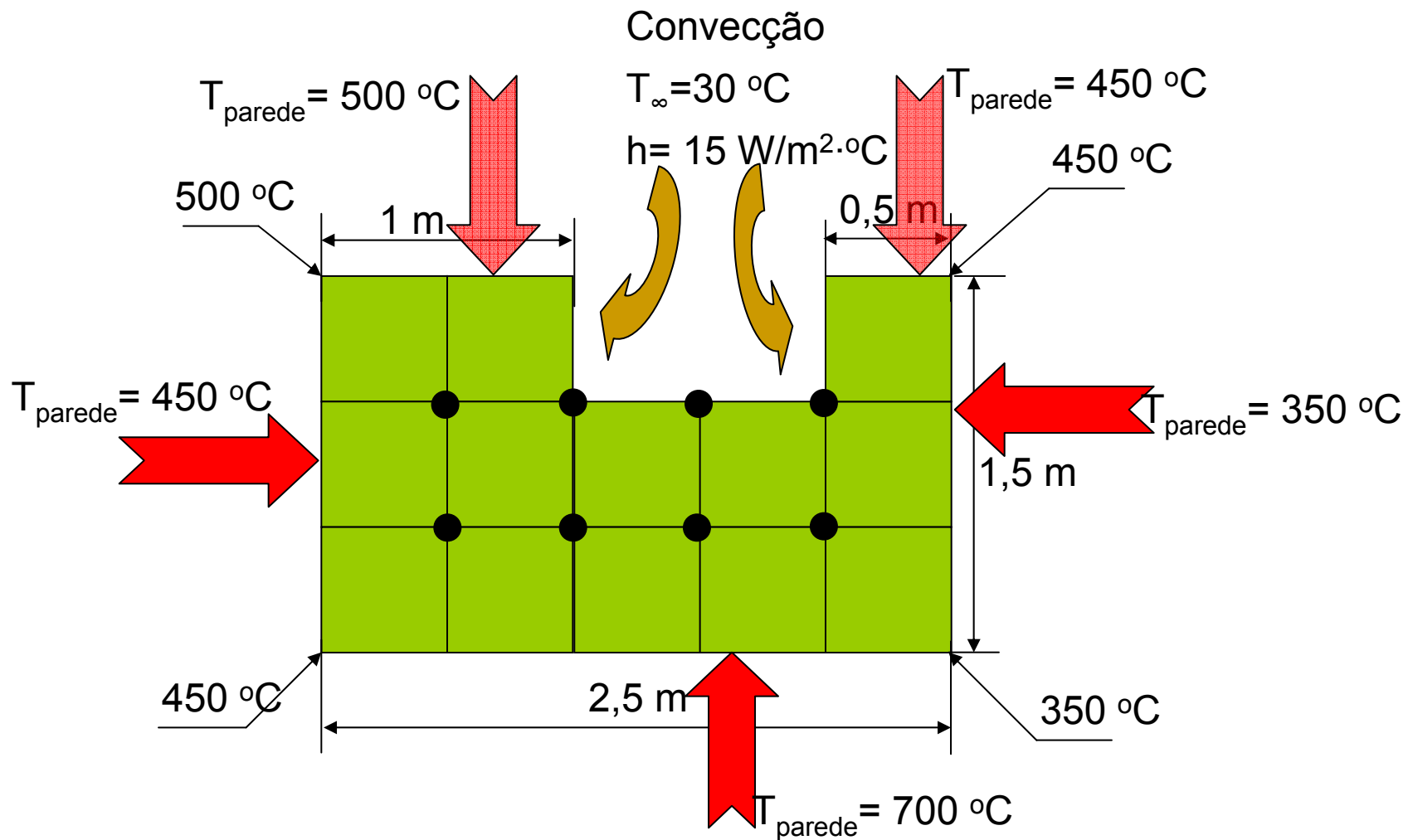
# Problema V

- Calcular as temperaturas dos nós assinalados a preto para uma placa de cobre com as dimensões apresentadas na figura e as seguintes características:
  - Coeficiente de condutibilidade térmica 385,9 W/mk
  - Densidade 895,4 kg/m<sup>3</sup>
  - Calor específico 383,1 J/kgK
- Variantes 41,42,43,44,45,46,47,48,49,50.

# Variante 41

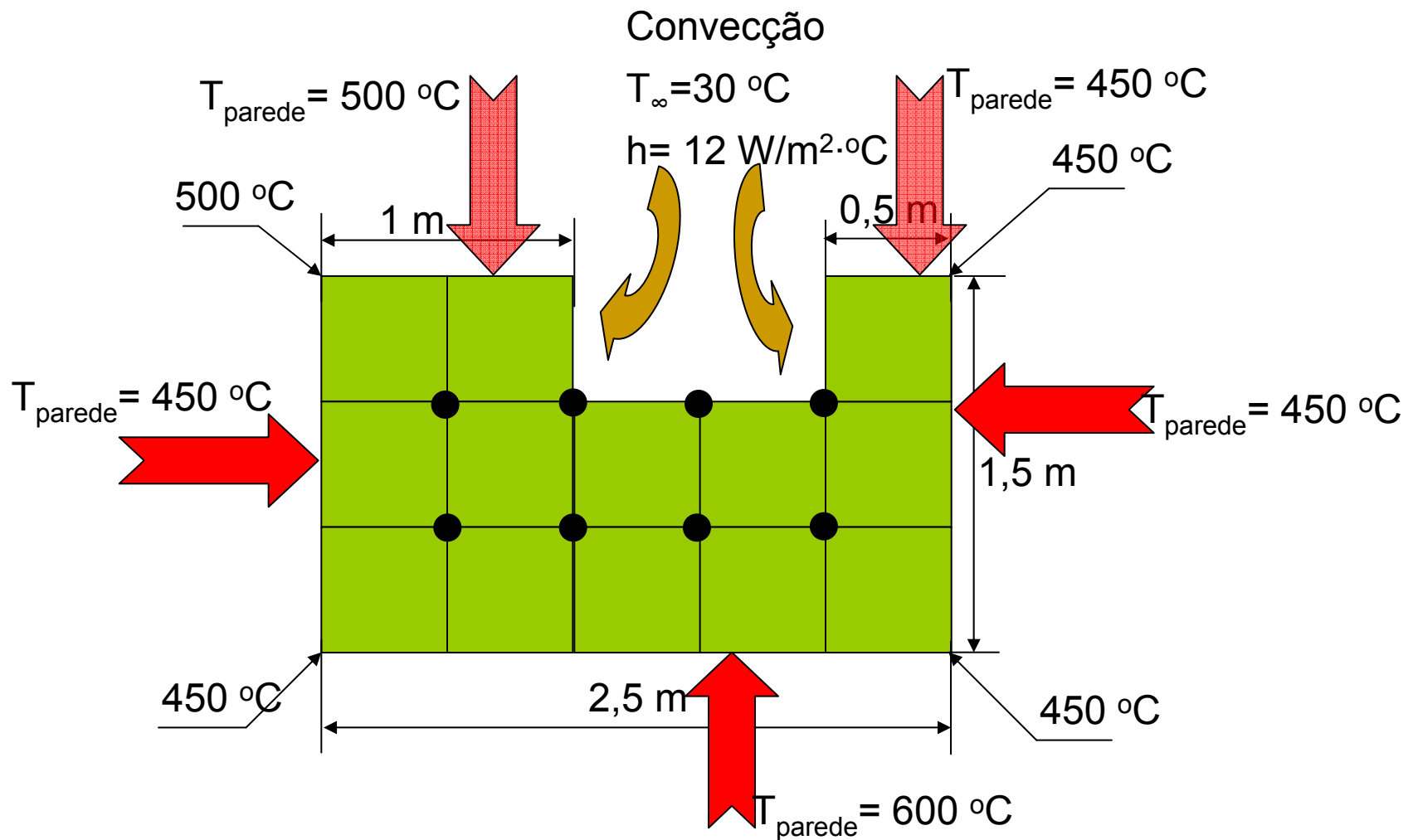


# Variante 42

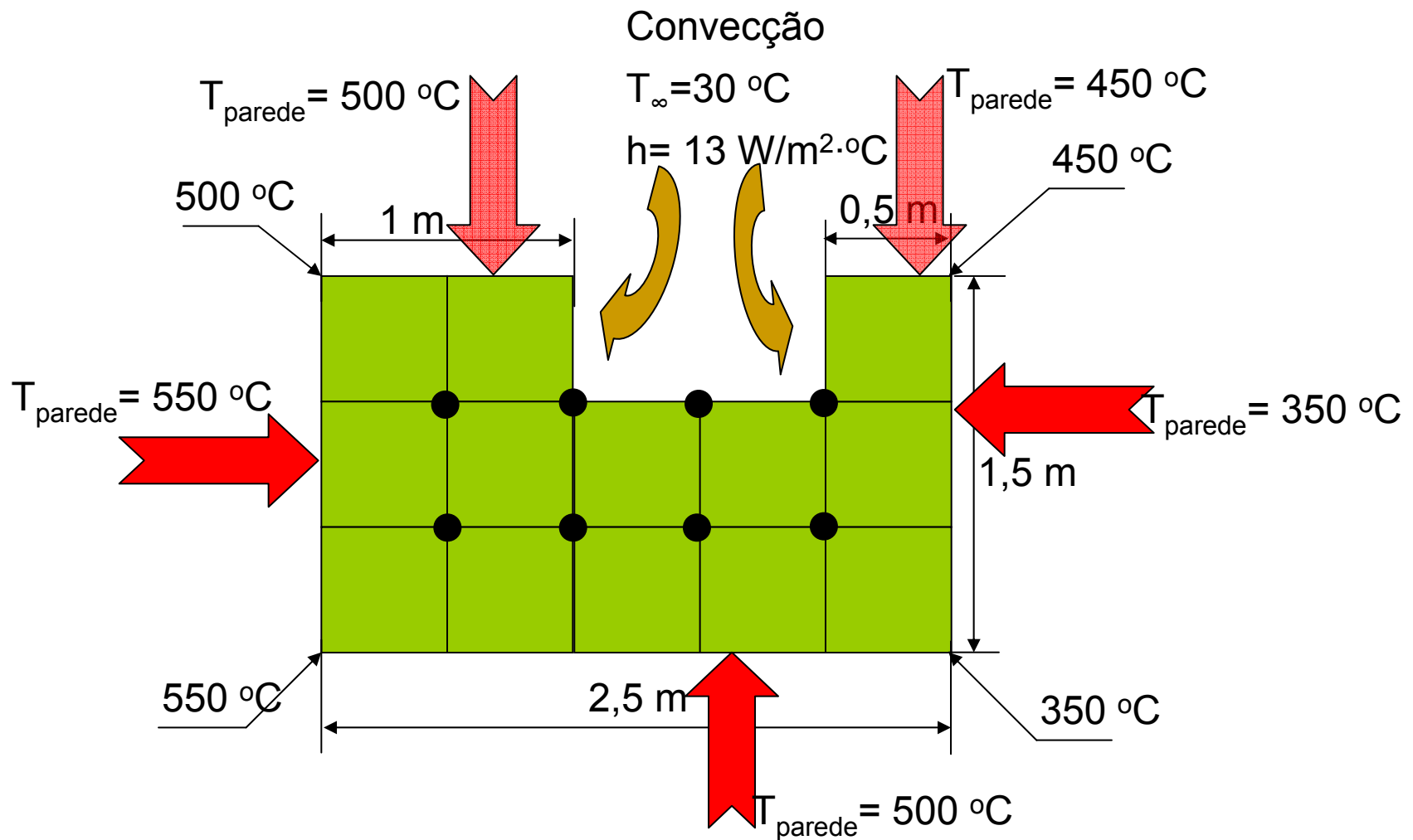




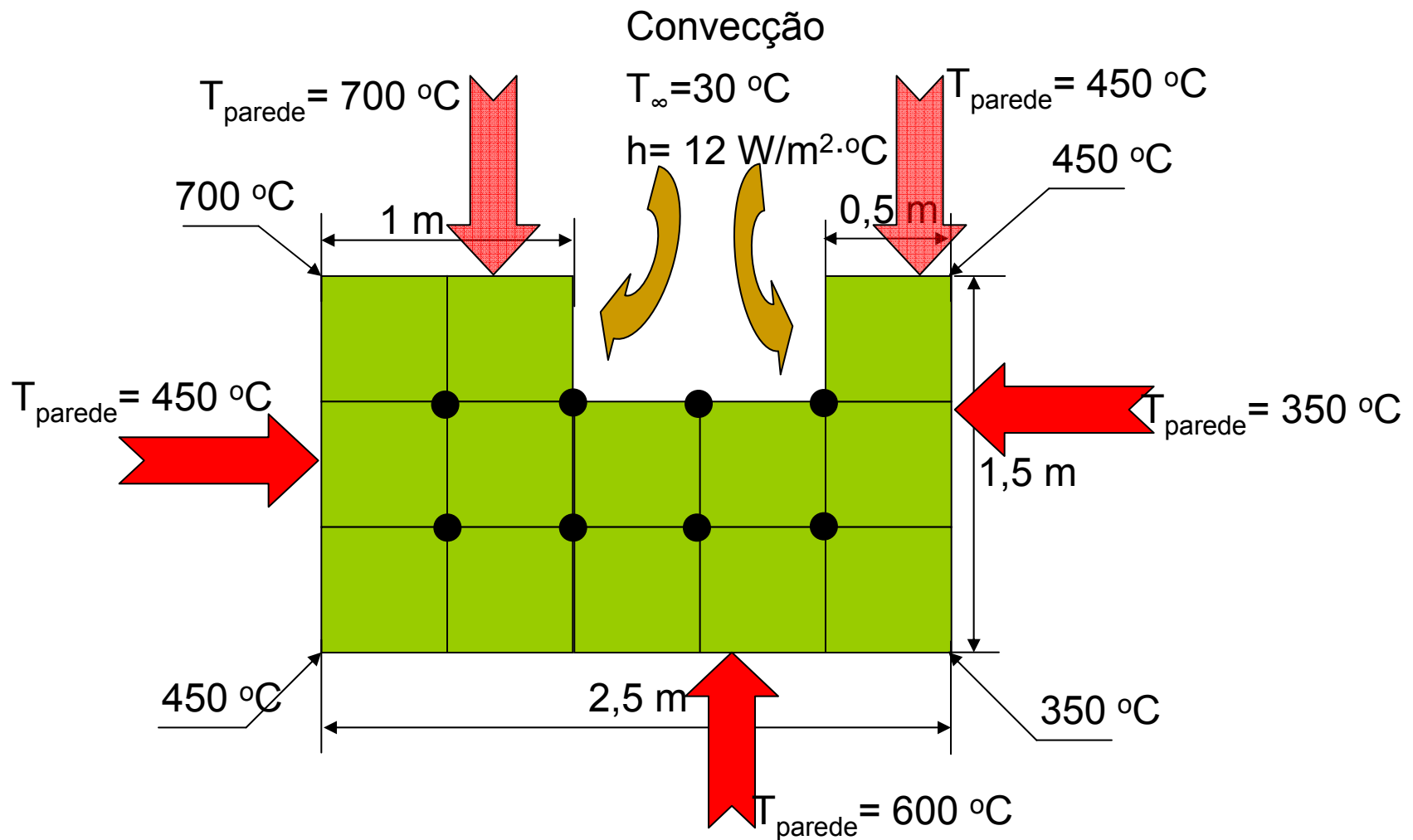
# Variante 43



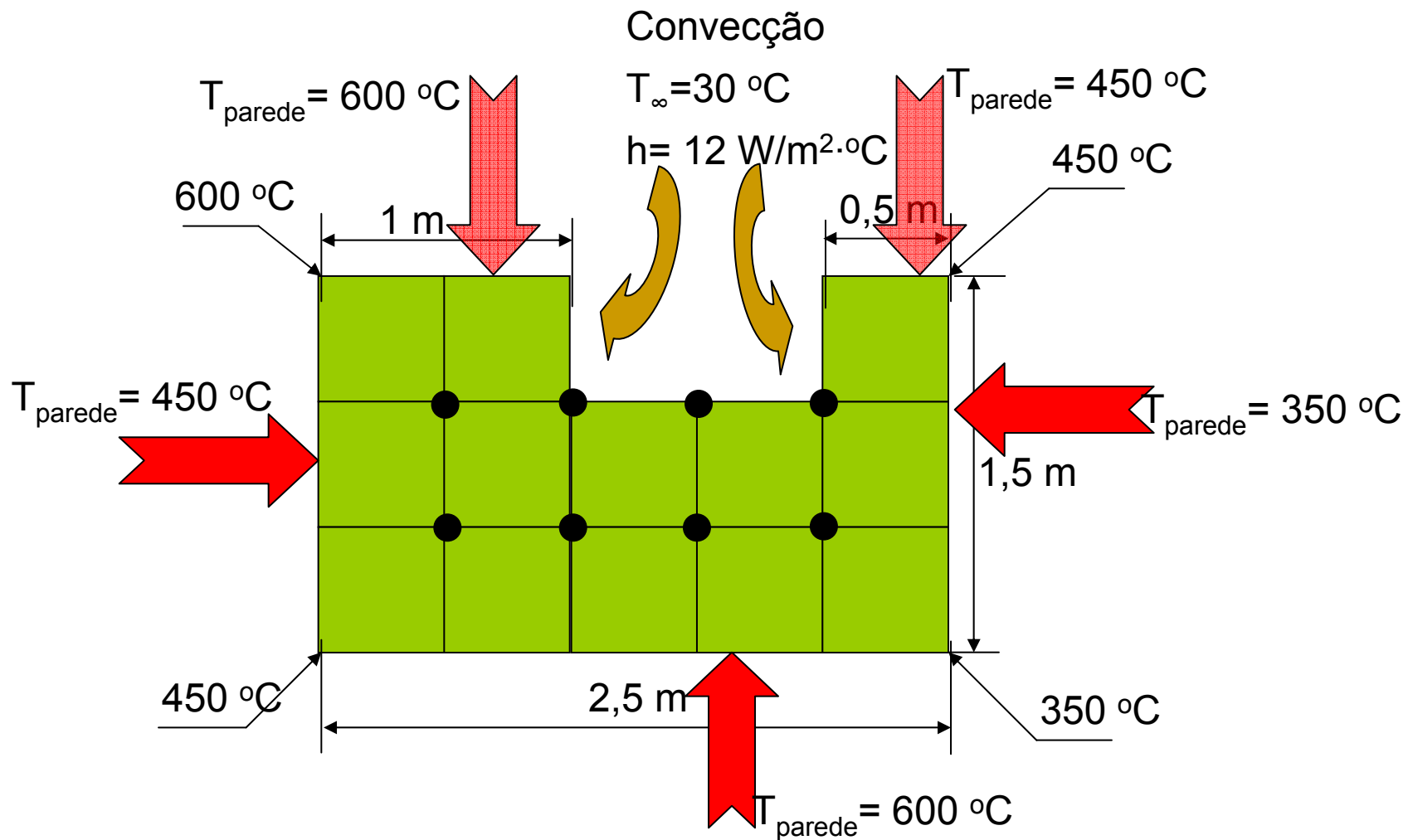
# Variante 44



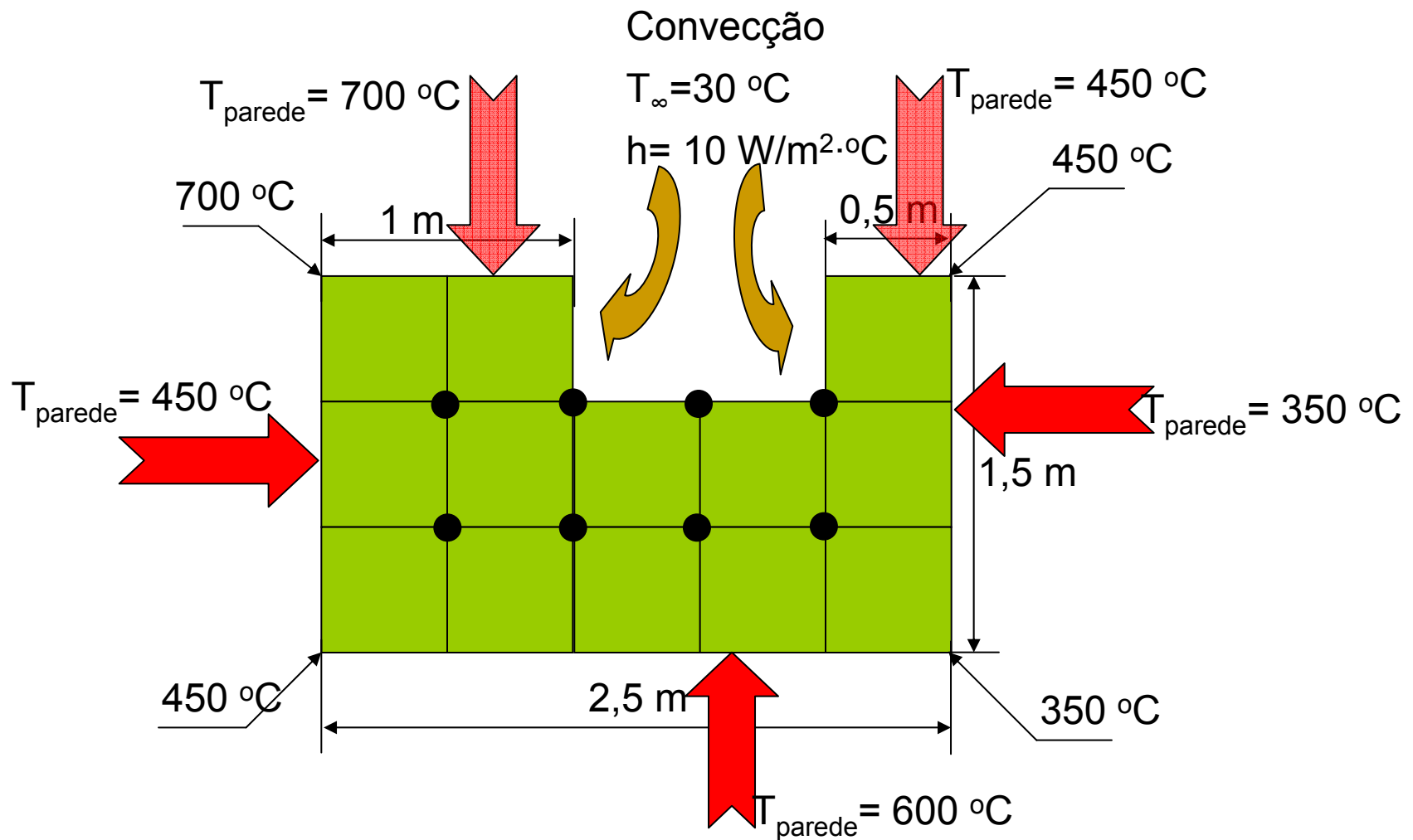
# Variante 45



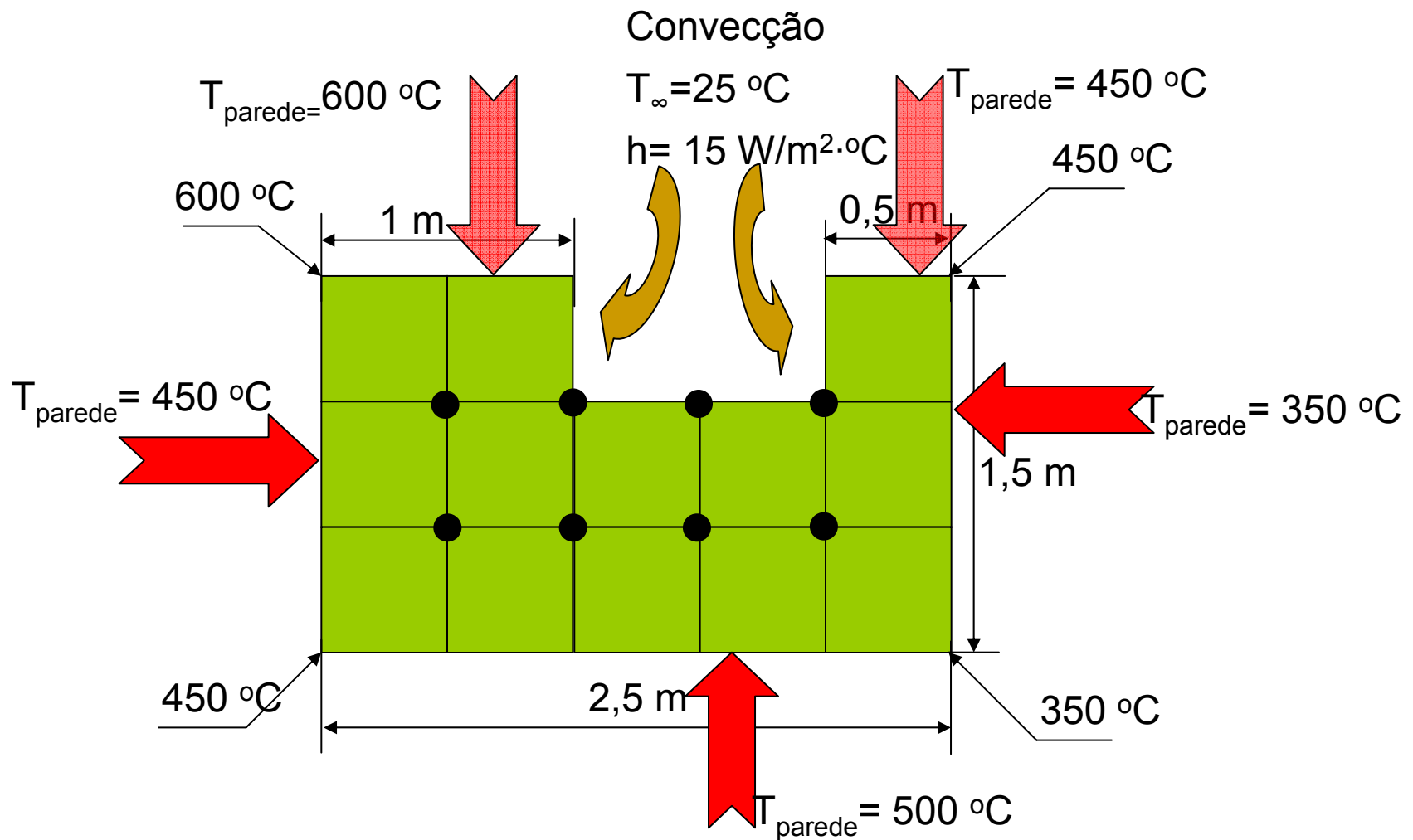
# Variante 46



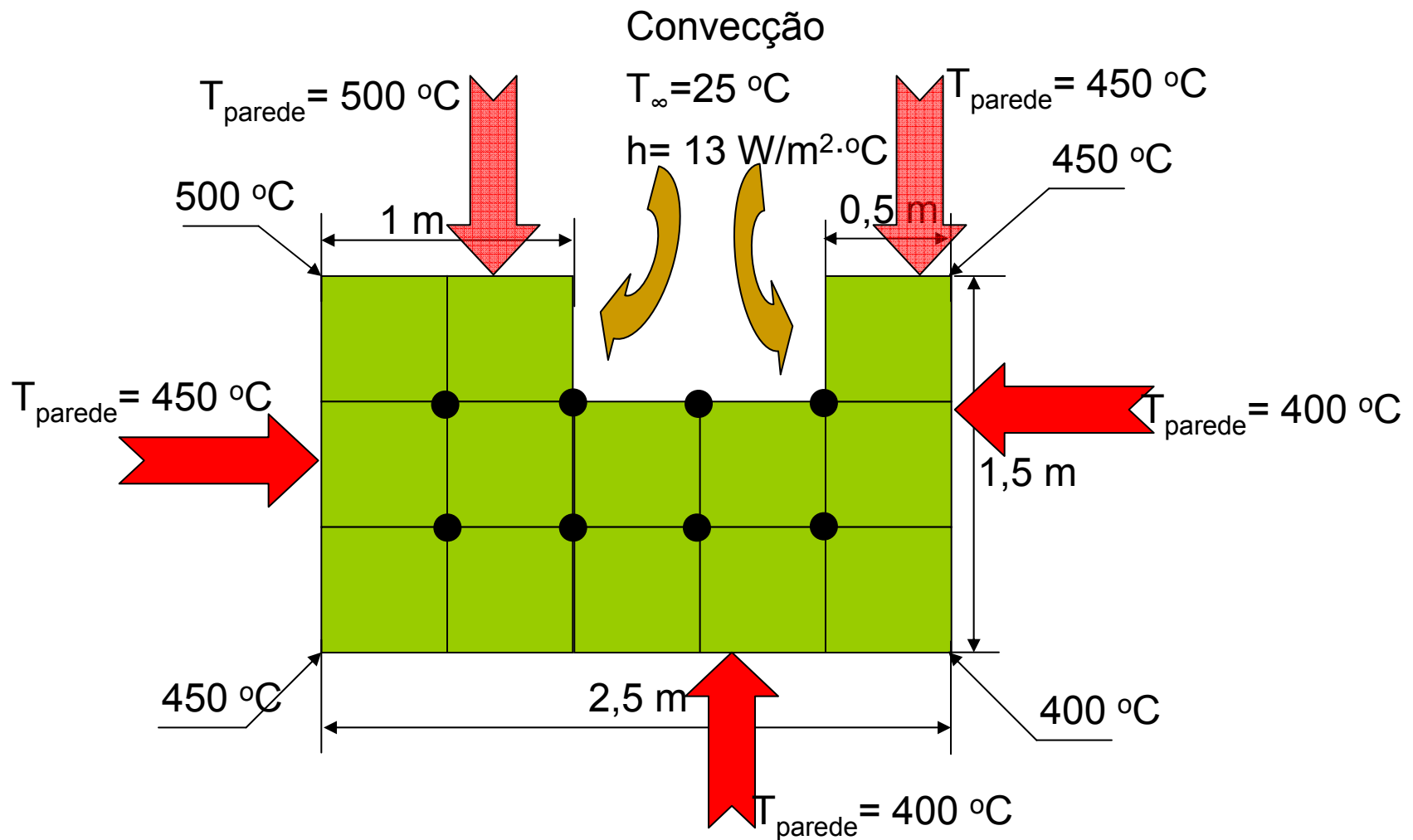
# Variante 47



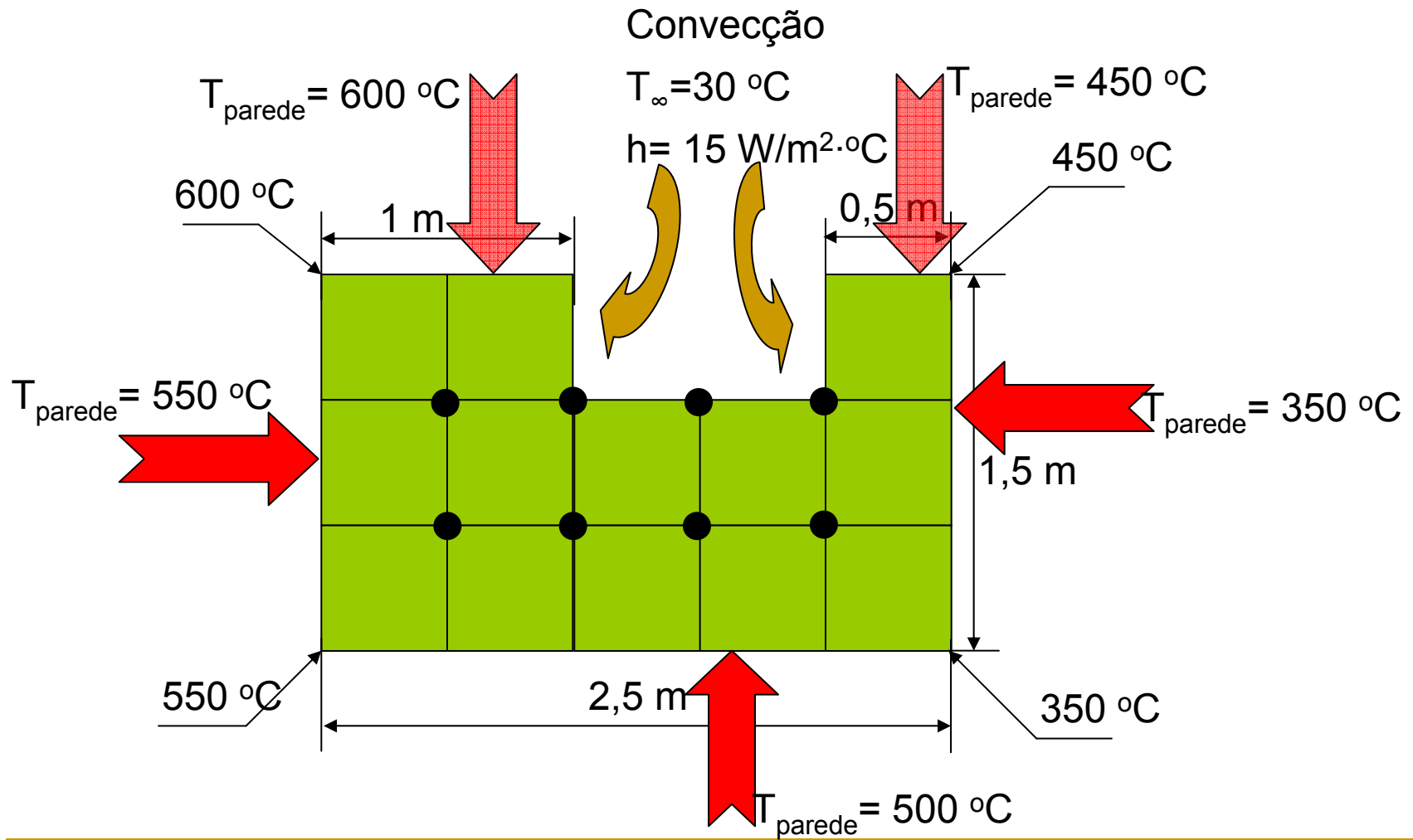
# Variante 48



# Variante 49



# Variante 50



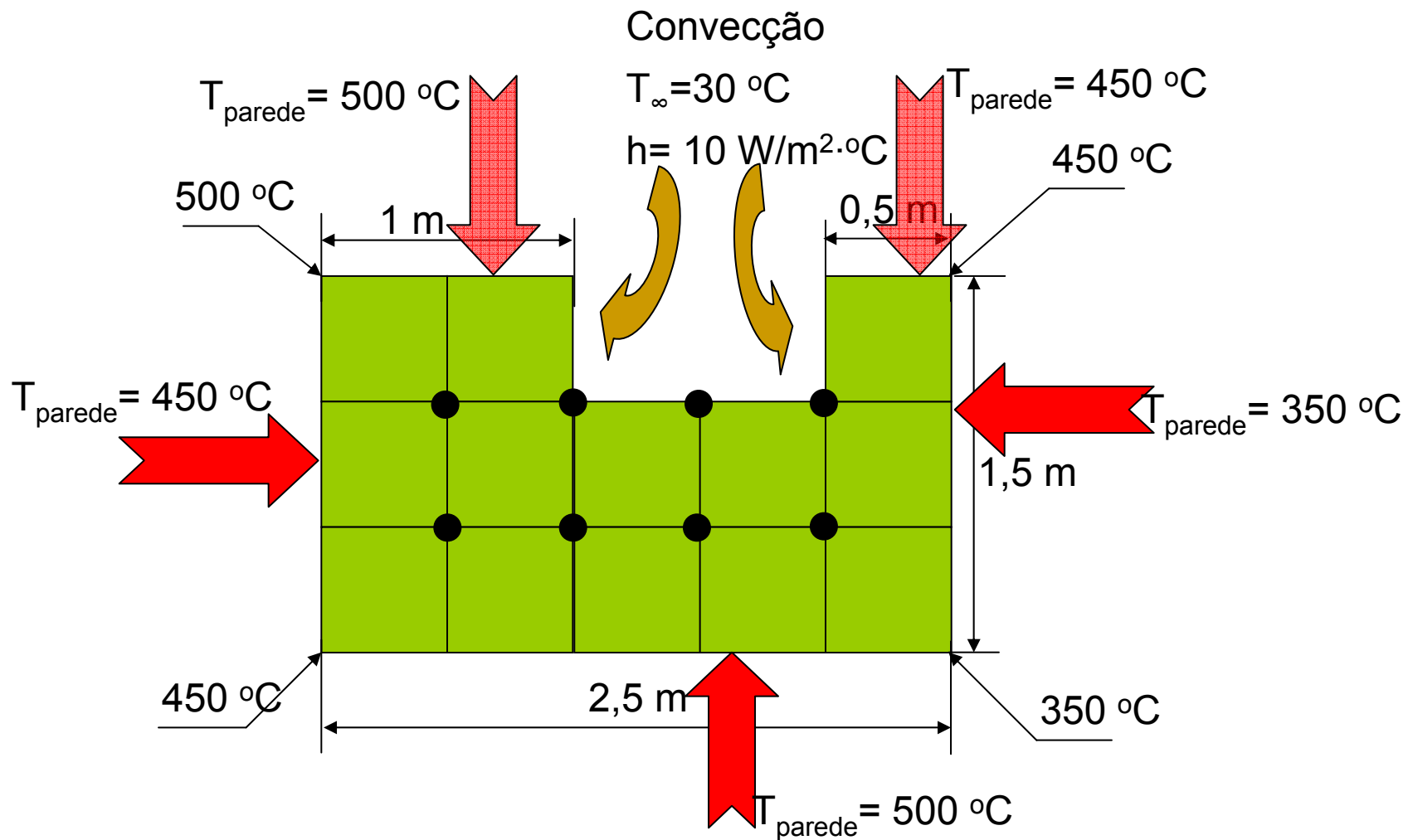


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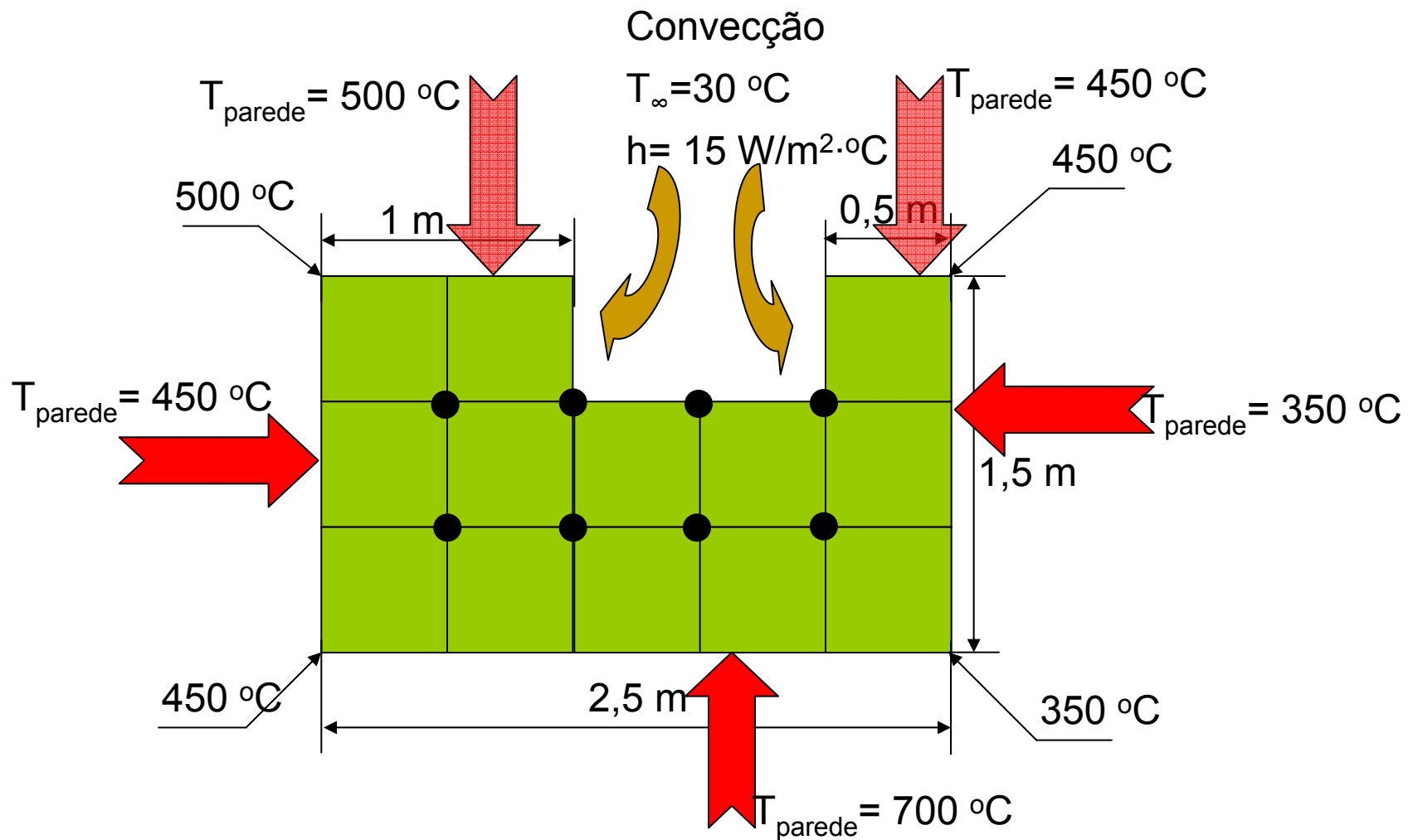
# Problema VI

- Calcular as temperaturas dos nós assinalados a preto para uma placa de alumínio com as dimensões apresentadas na figura e as seguintes características:
  - Coeficiente de condutibilidade térmica 204 W/mk
  - Densidade 2707 kg/m<sup>3</sup>
  - Calor específico 896,0 J/kgK
- Variantes 51,52,53,54,55,56,57,58,59,60,61.

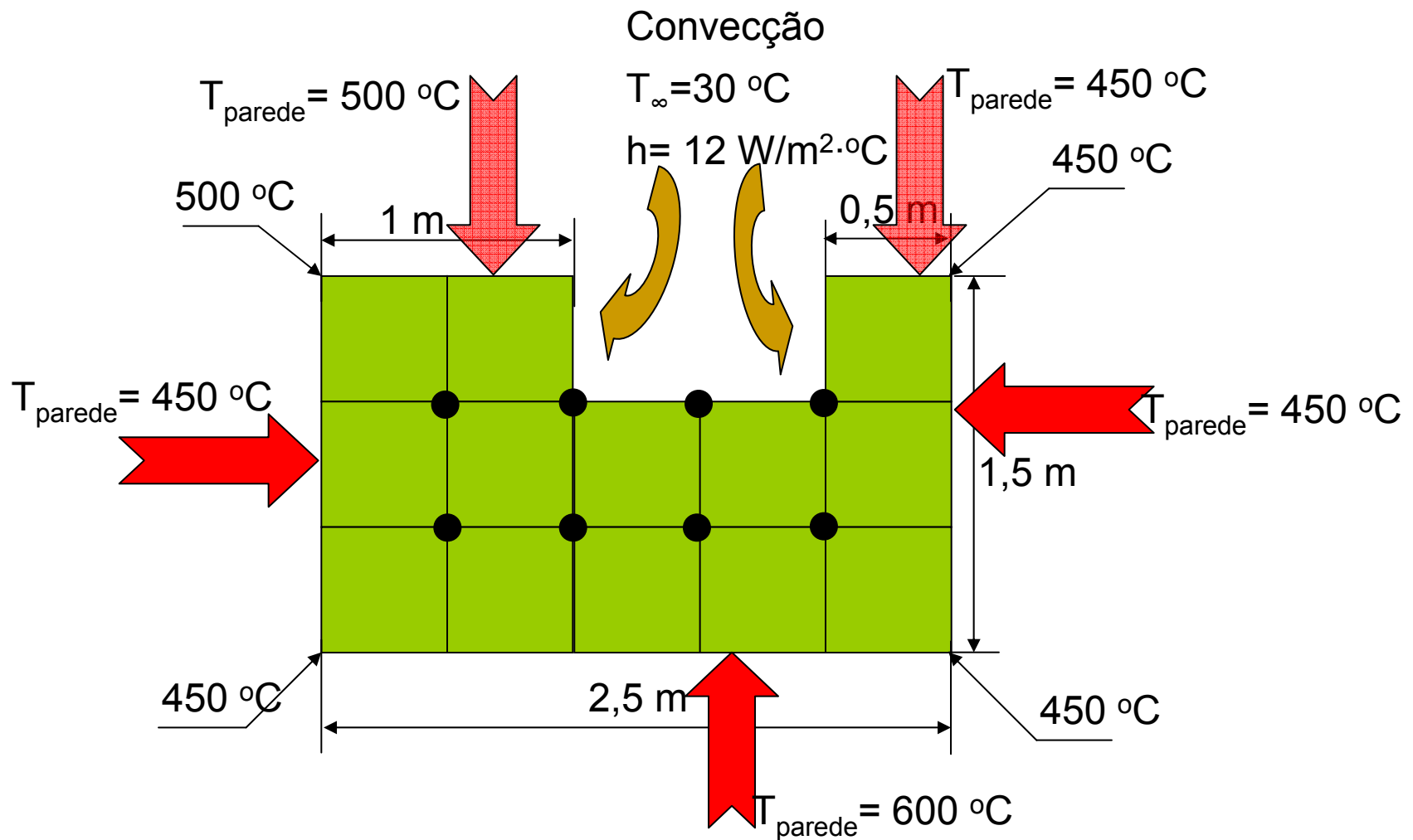
# Variante 51



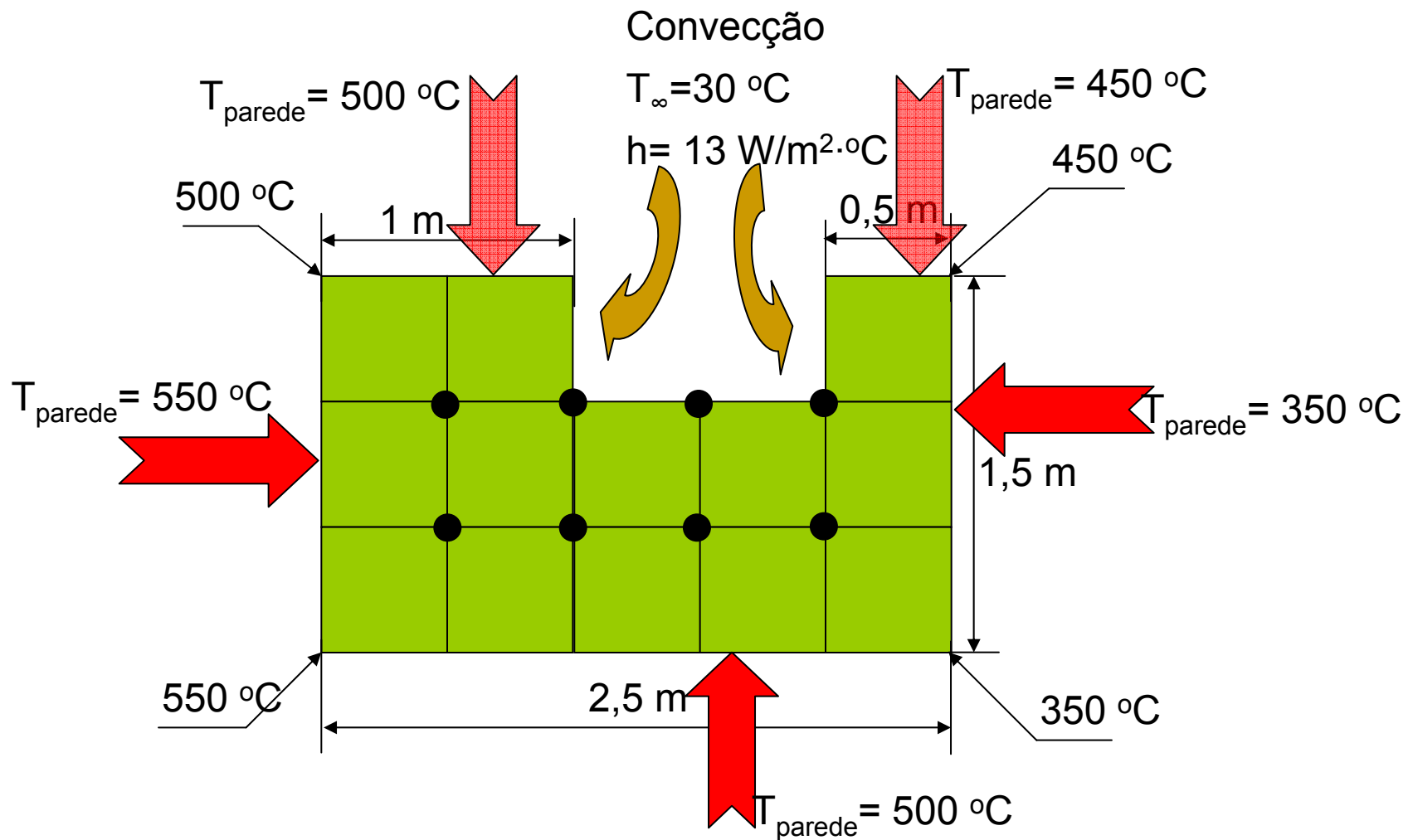
# Variante 52



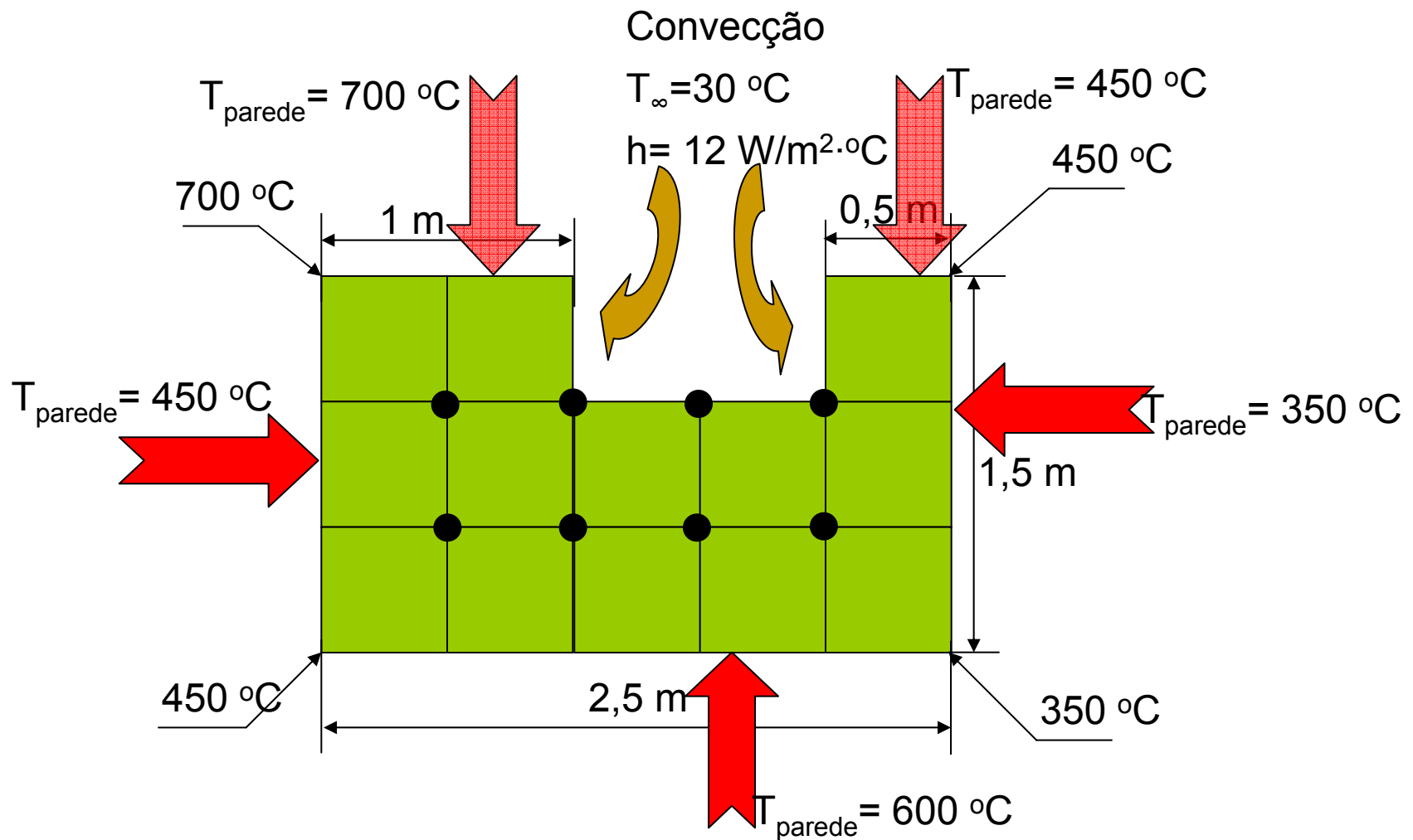
# Variante 53



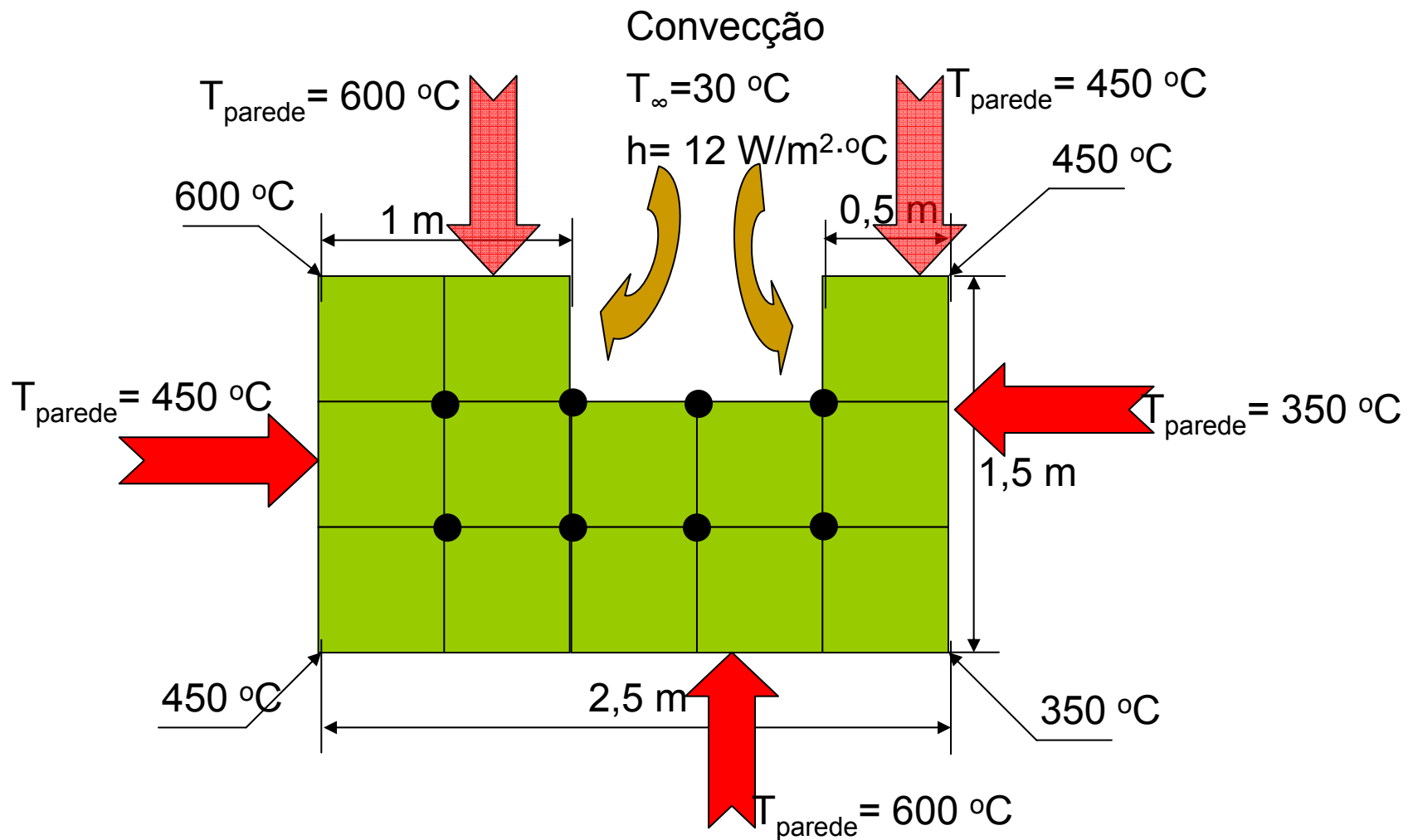
# Variante 54



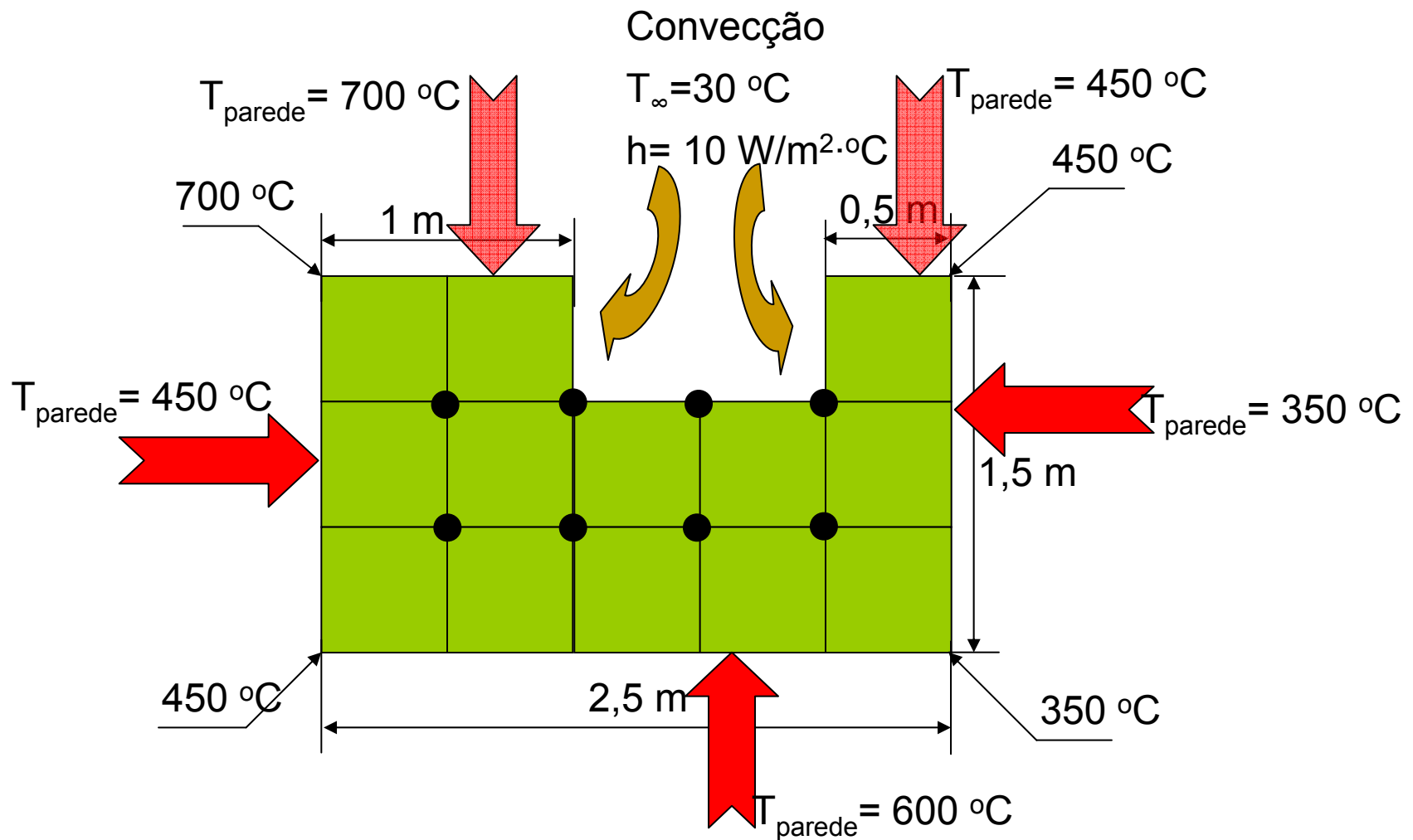
# Variante 55



# Variante 56

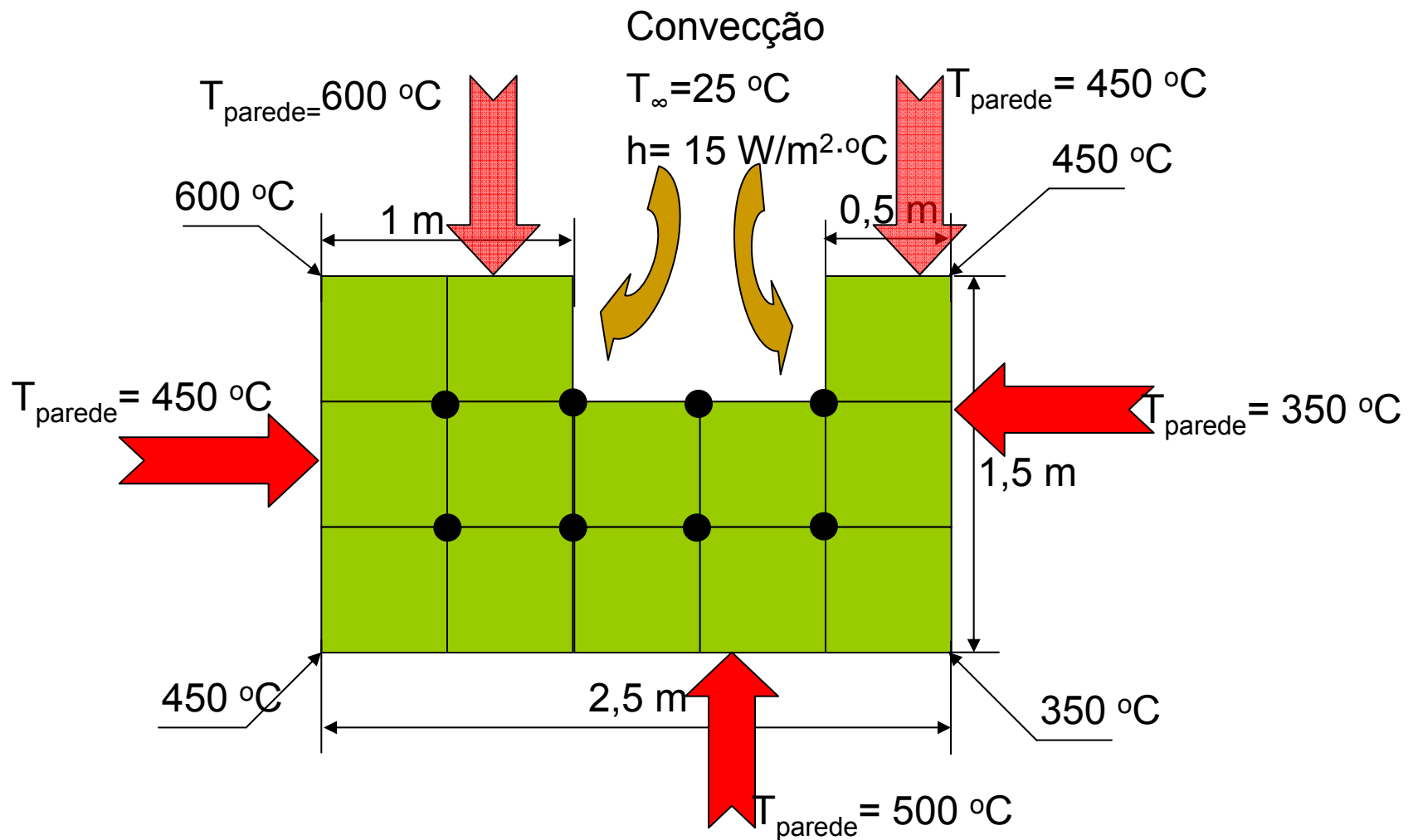


# Variante 57

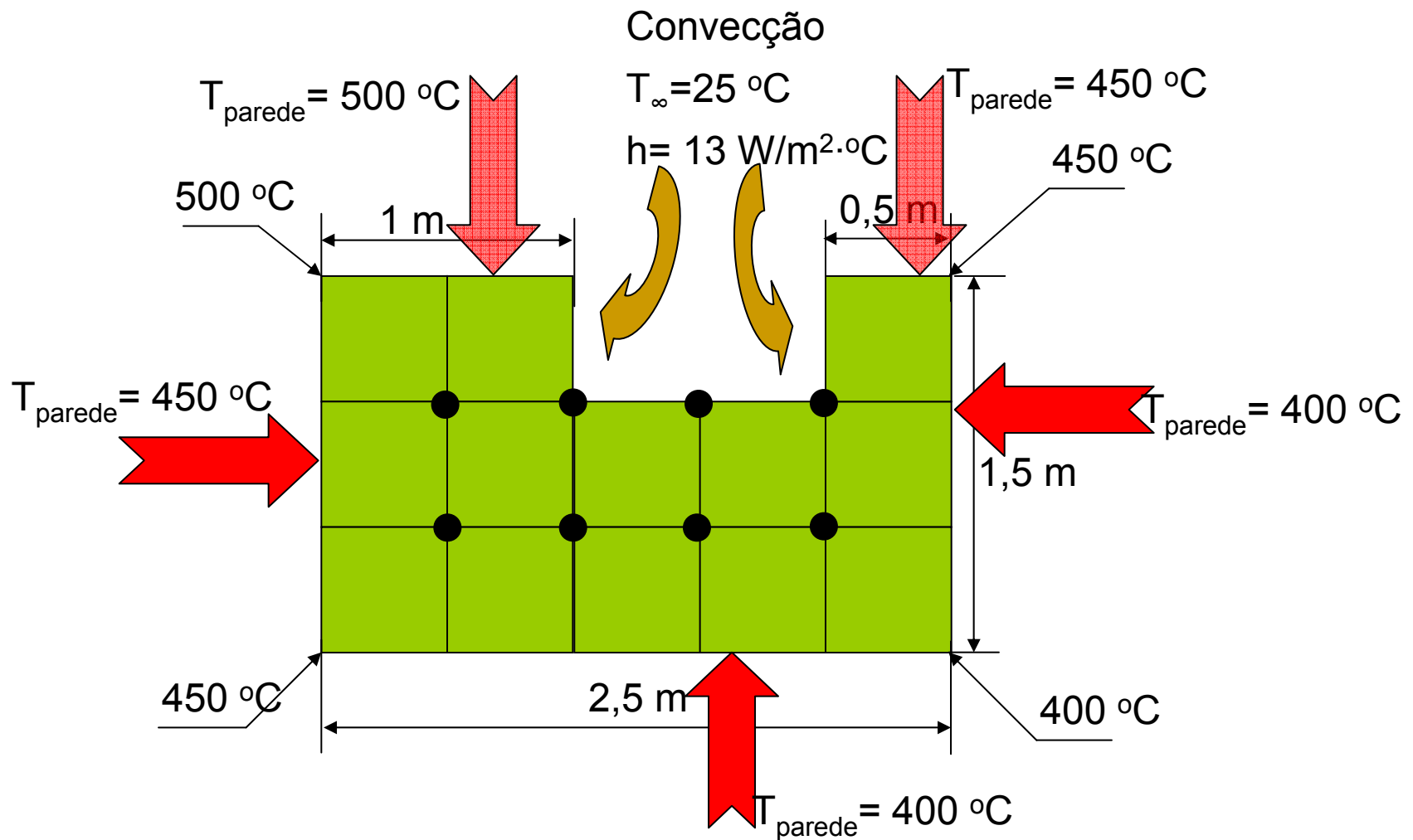




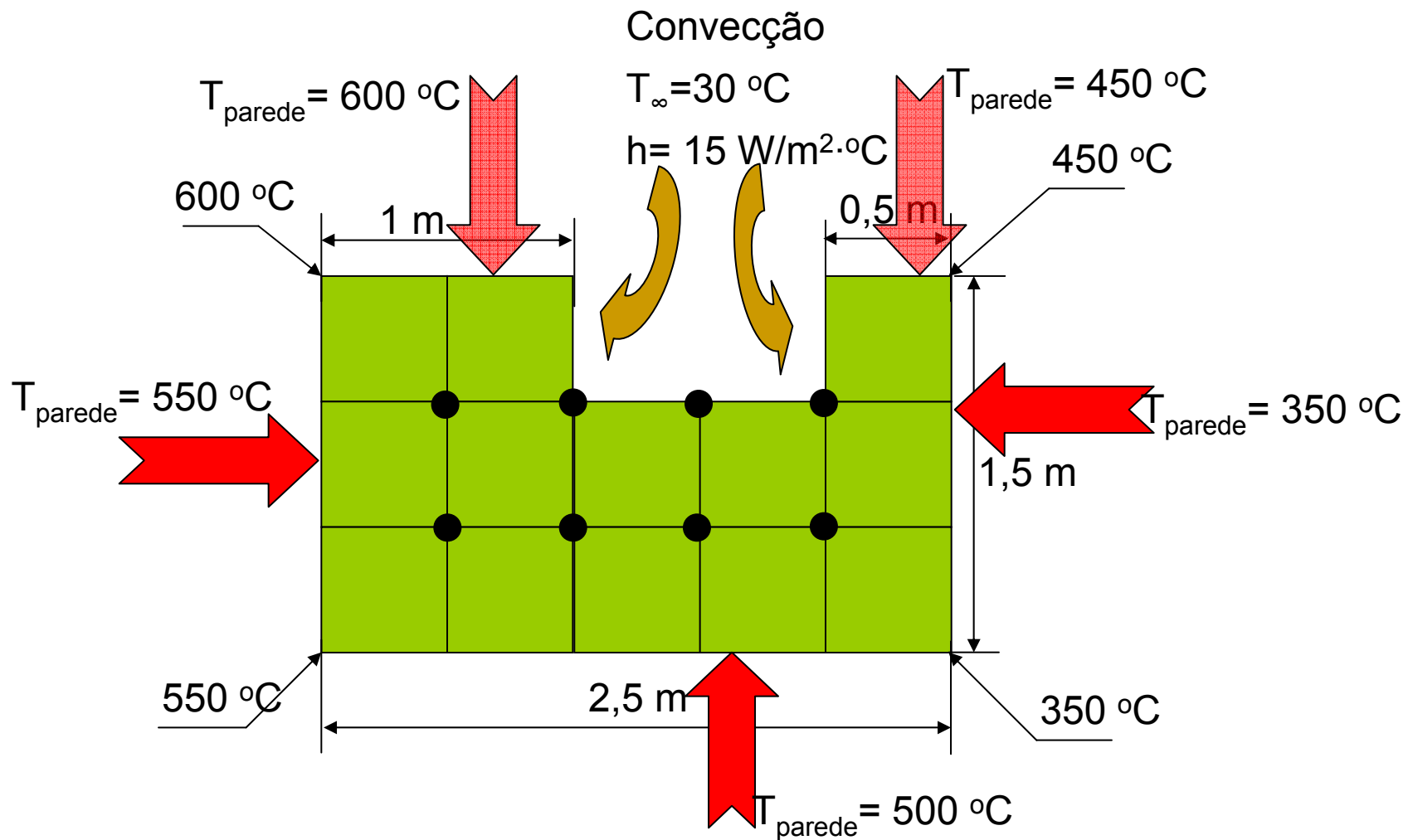
# Variante 58



# Variante 59



# Variante 60



# Variante 61

