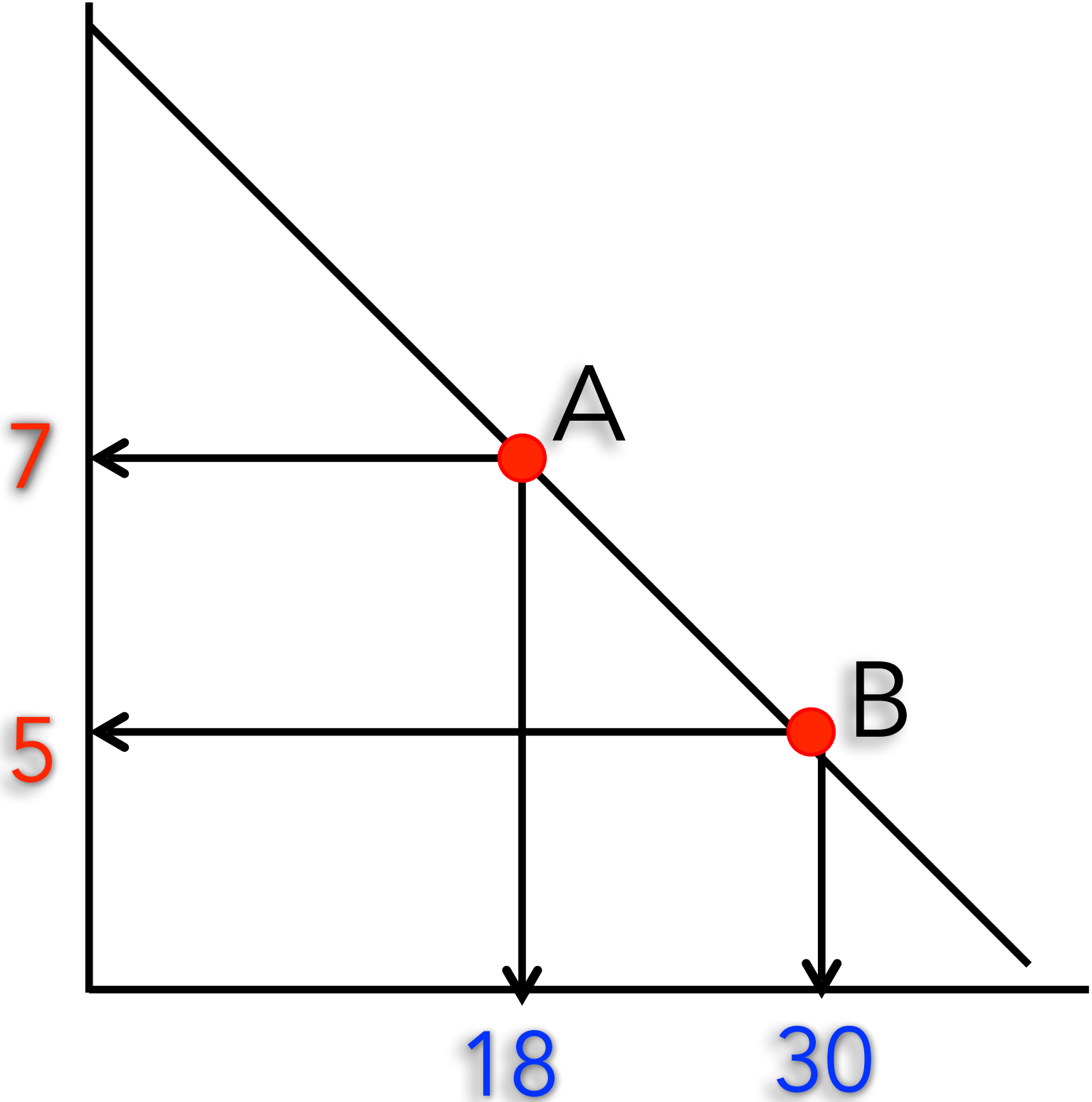






$$e_{p^d} = \frac{\% \Delta Q_d}{\% \Delta \text{Price}}$$

Price	Quantity Demanded



5

7

18

30

50%

33%

[REDACTED]

[REDACTED]

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1

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5

1



Change in Q^d

$$30 - 18 = 12$$

Average quantity:

$$(30+18)/2 = 24$$

$\% \Delta Q_d$

$$12/24 = 0.5 \times 100 = 50\%$$

Change in price

$$7 - 5 = 2$$

Average price

$$(7 + 5) / 2 = 6$$

$\% \Delta \text{ Price}$

$$2/6 = 0.33 \times 100 = 33\%$$



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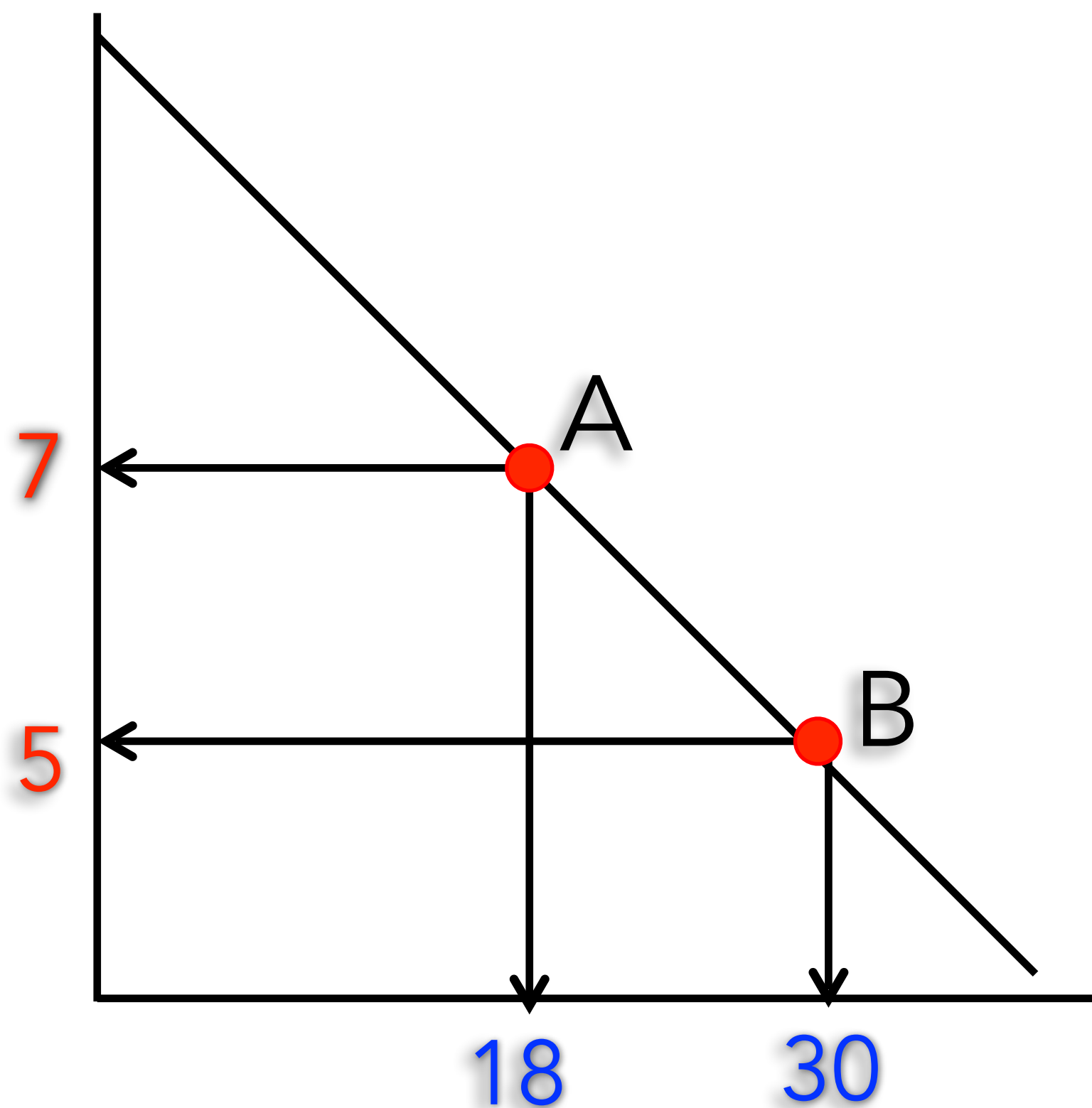
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The price elasticity of demand is **always negative**
because price and Q^d move in **opposite directions**:
add a negative sign



Price	Quantity Demanded
7	18
5	30

Change in Q^d

$$30 - 18 = 12$$

Average quantity:

$$(30 + 18) / 2 = 24$$

$\% \Delta Q^d$

$$12 / 24 = 0.5 \times 100 = 50\%$$

Change in price

$$7 - 5 = 2$$

Average price

$$(7 + 5) / 2 = 6$$

$\% \Delta \text{Price}$

$$2 / 6 = 0.33 \times 100 = 33\%$$

$$e_p^d = \frac{\% \Delta Q^d}{\% \Delta \text{Price}} = \frac{50\%}{33\%} = -1.51$$

The price elasticity of demand is **always negative** because price and Q^d move in **opposite directions**:
add a negative sign

