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**SOLUTION**

Station A uses 32 byte packets to transmit message to Station B using a sliding window protocol. The round trip delay between A and B is 80 milliseconds and the bottleneck bandwidth on the path between A and B is 128 kbps. What is the optimal window size that A should use?

**Given Data**

Delay = 80 milliseconds

Bandwidth = 128 kbps

Packet Size = 32 bytes

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**SOLUTION**

Bandwidth – Delay Product = Bandwidth x Delay

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## SOLUTION

Bandwidth – Delay Product = Bandwidth x Delay

Bandwidth – Delay Product = 128 kbps x 80 milliseconds

Bandwidth – Delay Product = 128 x 1024 x 80 milliseconds

Bandwidth – Delay Product = 128 x 1024 x 80 x 10<sup>-3</sup> bits

Bandwidth – Delay Product =  $\frac{128 \times 1024 \times 80 \times 10^{-3}}{8}$  bytes

Optimal Window Size =  $\frac{128 \times 1024 \times 80 \times 10^{-3}}{8 \times 32}$  bytes

Optimal Window Size = 40

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## SOLUTION

Station A uses 32 byte packets to transmit message to Station B using a sliding window protocol. The round trip delay between A and B is 80 milliseconds and the bottleneck bandwidth on the path between A and B is 128 kbps. What is the optimal window size that A should use?

- (A) 20
- (B) 40 ✓
- (C) 160
- (D) 320

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