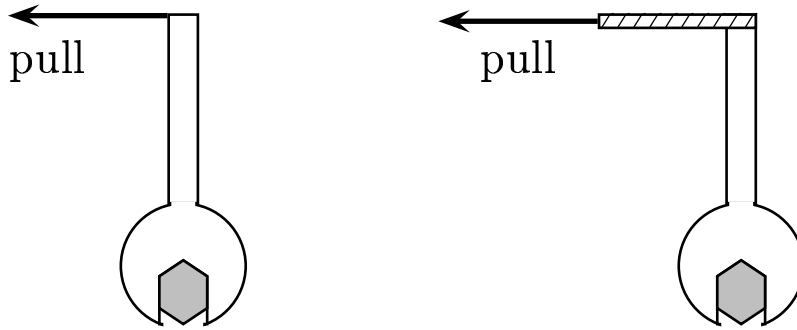


Harry is finding it very difficult to muster enough torque to twist the stubborn bolt with a wrench. He wishes that he had a length of pipe to place over the wrench handle to increase his leverage. Alas, he has no pipe, but does have some rope.



Will torque be increased if he pulls just as hard on the length of the rope tied to the wrench handle?

- A) Yes.
- B) No.

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Torque = force  $\times$  lever-arm.

The lever-arms for the two cases are the same, so the torque is the same.

Answer **B**.