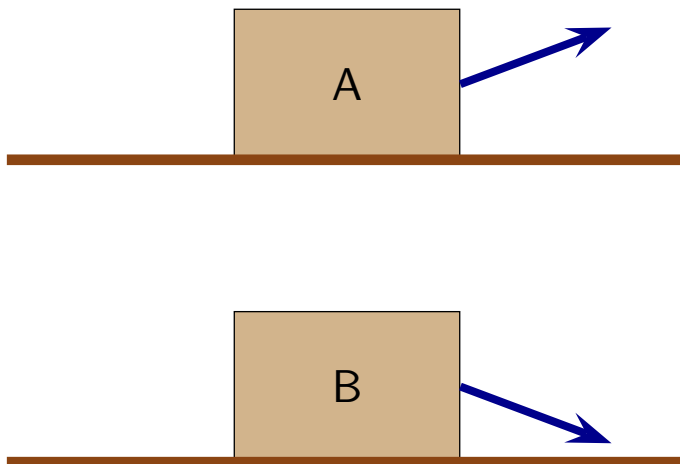


Question 1

Two identical blocks are on the same surface. Forces with identical magnitudes act on the blocks at different angles.



Which of the following is true?

1. μ_k is same for both.
2. μ_k is larger for A.
3. μ_k is smaller for A.

Question 2

A 10 kg box is at rest on a horizontal surface while a rope pulls on it as illustrated. The coefficient of static friction between the block and surface is $\mu_s = 0.50$.

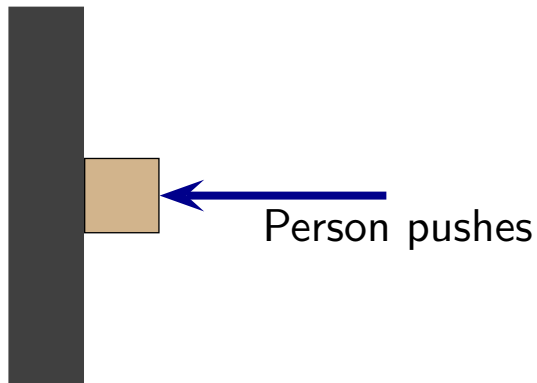


Which of the following is true?

1. The static friction force is less than 30 N.
2. The static friction force is 30 N.
3. The static friction force is 0.50 N.
4. The static friction force is 49 N ($= \mu_s mg$).

Question 3

A person pushes horizontally on a block in order to hold it against a vertical wall. The block is at rest.

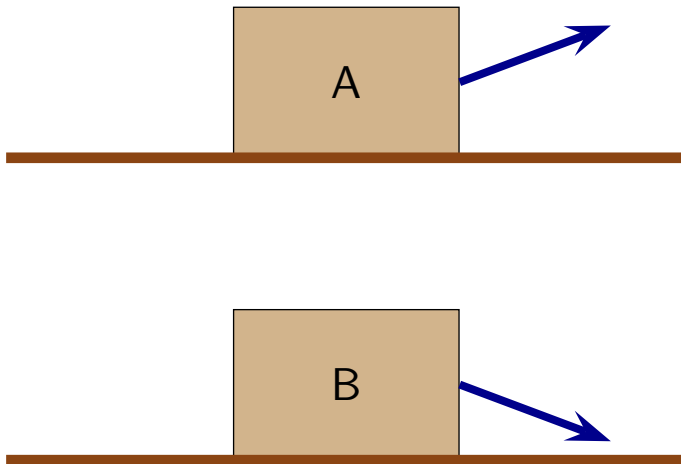


Which of the following is true?

1. As the person pushes harder, the friction force stays the same.
2. As the person pushes harder, the friction force increases.
3. As the person pushes harder, the friction force decreases.
4. Angels are holding the block up.

Question 4

Two identical blocks are on the same surface. Forces with identical magnitudes act on the blocks at different angles.



Which of the following is true?

1. f_k is same for both.
2. f_k is larger for A.
3. f_k is smaller for A.

Question 5

In many situations $\mu_s > \mu_k$. Consider an object initially at rest on a horizontal surface. A rope pulls with tension slowly increasing from zero. After the object starts to move, the rope continues to pull with the same tension required to overcome static friction.

Which of the following is true after the object starts to move?

1. It moves with constant speed.
2. It moves with constantly increasing speed.
3. It moves with constantly decreasing speed.