



## Reinforcement

## Doing Work with Fluids

**Directions:** Answer the following questions on the lines provided.

1. State Pascal's principle.

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2. Why are liquids sometimes more practical to use in a hydraulic system than gases?

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**Directions:** Circle the term in parentheses that best completes the statement.

- If you press against the bottom of a bottle of shampoo, the pressure on the sides of the bottle (increases, decreases, remains the same).
- Hydraulic systems in shock absorbers in cars use (steel, rubber, fluids) to make the ride smooth.
- If you increase the force on a small piston connected to a larger piston in a hydraulic system, the pressure on the larger piston will be (greater than, less than, the same as) the pressure on the smaller piston.
- In the hydraulic system in question 5, the force exerted by the larger piston will be (greater than, less than, the same as) the force on the smaller piston.
- In the hydraulic system in question 5, the distance the larger piston moves upward will be (greater than, less than, the same as) the distance the smaller piston moves down.
- According to Bernoulli's principle, as the speed of a fluid increases, the pressure it exerts (increases, decreases, remains the same).
- Bernoulli's principle is responsible for the (thrust, drag, lift) created on the wing of an airplane.

**Directions:** Answer the following question on the lines provided.

10. The small piston in a hydraulic system has a cross-sectional area of  $0.5 \text{ m}^2$ , and the large piston has an area of  $3 \text{ m}^2$ . What is the force exerted by the large piston if a force of  $500 \text{ N}$  is exerted on the small piston?

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