

Name: _____ Date: _____ Hour: _____

Pascal's Principle and Pressure Checkpoint

Formulas to use: $P = \frac{F}{A}$ $\frac{F_1}{A_1} = \frac{F_2}{A_2}$

1. A hydraulic lift has an input piston with an area of 5cm^2 and an output piston of 25cm^2 . If a force of 20N is applied to the input piston, what is the output force?
2. What is the pressure when a foot with an area of 40cm^2 steps with a force of $4,000\text{N}$?
3. If an output piston is 15 times larger than an input piston, how many times more force can it exert?
4. The area of a small hydraulic pump is 2cm^2 . If an input force of 12N is applied and an output force of 120N is produced, what is the area of the output cylinder?

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