

Student Name: \_\_\_\_\_ Date: \_\_\_\_\_

## Cost Effective Buying

The money you save by replacing a worn out energy consuming appliance with a more efficient one adds up and will eventually repay you for making the purchase, if the payback time is less than the appliance's lifetime. Simple payback is computed by dividing the total installed dollar cost by the annual dollar savings. The first year rate of return may be computed by dividing the annual dollar savings by the system's total installed dollar cost.

1. You are insulating your attic and can choose one of the following insulations:

Insulation A	Installed Cost = \$200	Annual Savings = \$120
Insulation B	Installed Cost = \$325	Annual Savings = \$145

Payback: Insulation A = \_\_\_\_\_ yrs.                      Insulation B = \_\_\_\_\_ yrs.

Rate of return on your investment:  
Insulation A = \_\_\_\_\_ %                      Insulation B = \_\_\_\_\_ %

Which one do you choose? \_\_\_\_\_

2. You are installing a new water heater with the following results:

Water Heater A	Thicker wall insulation in the new water heater	Installed Cost = \$325	Annual Savings = \$19
Water Heater B	Solar water heater that only uses purchased energy when not enough solar energy is available.	Installed Cost = \$1,475	Annual Savings = \$150

Payback: Water Heater A = \_\_\_\_\_ yrs                      Water Heater B = \_\_\_\_\_ yrs

Rate of Return on your investment:  
Water Heater A = \_\_\_\_\_ %                      Water Heater B = \_\_\_\_\_ %

Which one do you choose? \_\_\_\_\_

3. Your window unit air conditioner no longer works and you can choose one of the following room air conditioners with the following results:

Air Conditioner A	Installed Cost = \$220	Annual Savings = \$15
Air Conditioner B	Installed Cost = \$435	Annual Savings = \$35

Payback: Air Conditioner A = \_\_\_\_\_ yrs                      Air Conditioner B = \_\_\_\_\_ yrs

Rate of Return on your investment:  
Air Conditioner A = \_\_\_\_\_ %      Air Conditioner B = \_\_\_\_\_ %

Which one do you choose? \_\_\_\_\_

