Name
SHOW AS MUCH WORK AS POSSIBLE BECAUSE YOU MAY RECEIVE PARTIAL CREDIT FOR THE WORK YOU DO IF YOUR ANSWER IS INCORRECT.

1. How much should you invest now at 2.4% simple interest if you need $4200 in 5 years?

$$P = \frac{A}{1+rt}, A = 4200, r = 0.024, t = 5$$

$$P = \frac{4200}{1+0.024 \cdot 5} = \frac{4200}{1.12} = 3750$$

$\boxed{\$3750}$

2. Every Friday you go to lunch with a friend. One Friday, you are out of money and your friend offers to pay for your $10 lunch if you buy her lunch the next Friday. The next Friday your friend's lunch costs $11. What is the (annual) simple interest rate (as a percent) you ended up paying on the money your friend loaned you?

$$I = Prt, I = 11 - 10 = 1, P = 10, t = 1 \text{ week} = \tfrac{1}{52} \text{ years}$$

$$1 = 10 \cdot r \cdot \tfrac{1}{52} \Rightarrow r = 52/10 = 5.2$$

$\boxed{520\%}$

Name

SHOW AS MUCH WORK AS POSSIBLE BECAUSE YOU MAY RECEIVE PARTIAL CREDIT FOR THE WORK YOU DO IF YOUR ANSWER IS INCORRECT.

1. How much should you invest now at 2.6% simple interest if you need $3450 in 4 years?

$$P = \frac{A}{1+rt}, A = 3450, r = 0.026, t = 4$$

$$P = \frac{3450}{1+0.026 \cdot 4} = \frac{3450}{1.104} = 3125$$

$\boxed{\$3125}$

2. Every Friday you go to lunch with a friend. One Friday, you are out of money and your friend offers to pay for your $10 lunch if you buy her lunch the next Friday. The next Friday your friend's lunch costs $12. What is the (annual) simple interest rate (in percent) you ended up paying on the money your friend loaned you?

$$I = Prt, I = 12-10 = 2, P = 10, t = 1 \text{ week} = \tfrac{1}{52} \text{ years}$$

$$2 = 10 \cdot r \cdot \tfrac{1}{52} \Rightarrow r = 52/5 = 10.4$$

$\boxed{1040\%}$