Plan Value Check

Compare costs, returns, and protection before you choose.

HIGH SCHOOL · MA.912.FL.4

MA.912.FL.4 "Describe the advantages and disadvantages of financial and investment plans, including insurances."

NAME ____________________ DATE ____________

COMPARE THE WHOLE PLAN

For a financial choice, compare total amounts over the same time period. For simple interest, use I = P*r*t, then add the interest to the starting amount. A lower cost can be an advantage, while insurance can cost more but protect you from a large surprise expense.

WORKED EXAMPLE

You invest $725 at 11% simple interest for 8 years. What is the final balance?

1. Use I = P*r*t.
2. I = 725*0.11*8 = $638.
3. Add the interest to the principal: $725 + $638 = $1,363.

Answer: $1,363

PRACTICE

6 problems

1. A savings plan starts with $360 and earns 5% simple interest for 1 year. How much interest does it earn?

   ANSWER ____________________

2. A bond costs $240 and pays 6% simple interest for 2 years. What is its final value?

   ANSWER ____________________

3. Coverage A costs $35 per month. Coverage B costs $420 per year. Which coverage has the lower annual premium, and by how much?

   ANSWER ____________________

4. Plan A has an annual premium of $180 and a $500 deductible. Plan B has an annual premium of $260 and a $300 deductible. A covered claim is larger than either deductible. Find the total cost for each plan and identify the cheaper plan.

   ANSWER ____________________

5. You put $150 in Account X at 4% simple interest for 3 years. Account Y earns $12 total interest over the same time. Which account earns more interest, and by how much?

   ANSWER ____________________

6. A renter pays $110 per year for bike insurance with a $40 deductible. A covered bike repair costs $260. How much does insurance save during the repair year after the premium and deductible are included?

   ANSWER ____________________

APPLY IT
Show your work

1 A phone protection plan costs $14 per month and has a $50 deductible. After 12 months, a $230 screen repair is needed. Instead of buying the plan, you could save $14 each month and pay for the repair yourself. Which choice has the lower total cost in this situation, and by how much?

WORK SPACE

ANSWER ____________________

2 You are saving for a summer training program. Plan A pays 4% simple interest on $250 for 5 years. Plan B pays 3% simple interest on $250 for 5 years and adds a $20 bonus at the end. Which plan has the larger final balance, and by how much?

WORK SPACE

ANSWER ____________________

CHALLENGE
One step up

CHALLENGE

A repair insurance plan costs $90 per year and has a $50 deductible. Without insurance, a repair would cost $350. You estimate a 1/4 chance of needing one repair during the year and a 3/4 chance of needing no repair. Which choice has the lower expected annual cost? Also state one advantage of buying the insurance plan.

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ANSWER KEY **Plan Value Check** HIGH SCHOOL · MA.912.FL.4

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	A savings plan starts with $360 and earns 5% simple interest for 1 year. How much interest does it earn?	**$18**
2	A bond costs $240 and pays 6% simple interest for 2 years. What is its final value?	**$268.80**
3	Coverage A costs $35 per month. Coverage B costs $420 per year. Which coverage has the lower annual premium, and by how much?	**Neither. Both cost $420 per year, so the difference is $0.**
4	Plan A has an annual premium of $180 and a $500 deductible. Plan B has an annual premium of $260 and a $300 deductible. A covered claim is larger than either deductible. Find the total cost for each plan and identify the cheaper plan.	**Plan A: $680. Plan B: $560. Plan B is cheaper by $120.**
5	You put $150 in Account X at 4% simple interest for 3 years. Account Y earns $12 total interest over the same time. Which account earns more interest, and by how much?	**Account X earns $18 in interest, so Account X earns $6 more.**
6	A renter pays $110 per year for bike insurance with a $40 deductible. A covered bike repair costs $260. How much does insurance save during the repair year after the premium and deductible are included?	**$110**

PART 2 · APPLY IT

1. **The phone protection plan costs less by $12.** The plan costs 12*14 + 50 = $218. Saving money and paying for the repair costs $230, so the plan is $12 less.
2. **Plan B has the larger final balance by $7.50. Plan A ends with $300, and Plan B ends with $307.50.** Plan A earns 250*0.04*5 = $50 interest. Plan B earns 250*0.03*5 = $37.50 interest, then receives the $20 bonus.

CHALLENGE

No insurance has the lower expected annual cost. Insurance: $90 + 1/4*$50 = $102.50. No insurance: 1/4*$350 = $87.50. No insurance is lower by $15. Insurance still limits the cost in a repair year to $140 instead of $350.

Accept equivalent calculations and correct currency notation. For the challenge, accept any accurate statement that insurance reduces the possible out-of-pocket cost in a repair year.