LESSON MAKER PRO

Plan Value Check

Compare costs, returns, and protection before you choose.

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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

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.

WORK SPACE AND ANSWER

ANSWER KEY

Plan Value Check

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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.