

المملكة العربية السعودية

وزارة التعليم

MINISTRY OF EDUCATION



لكل المهتمين و المهتمات  
بدروس و مراجع الجامعية

هام

مدونة المناهج السعودية [eduschool40.blog](http://eduschool40.blog)

نموذج 1

نوع التأمين: فوق التناهي لا بد من عرض الخطر قبل ما يبلغ التأمين الكافي

قيمة التعويض: قيمة الخطر لا تتجاوز ما قبل التأمين  
 $60000 = 180000$

نصيب التعاونية:

$$90000 - 300000 = \frac{50000}{1000000} \times 180000$$

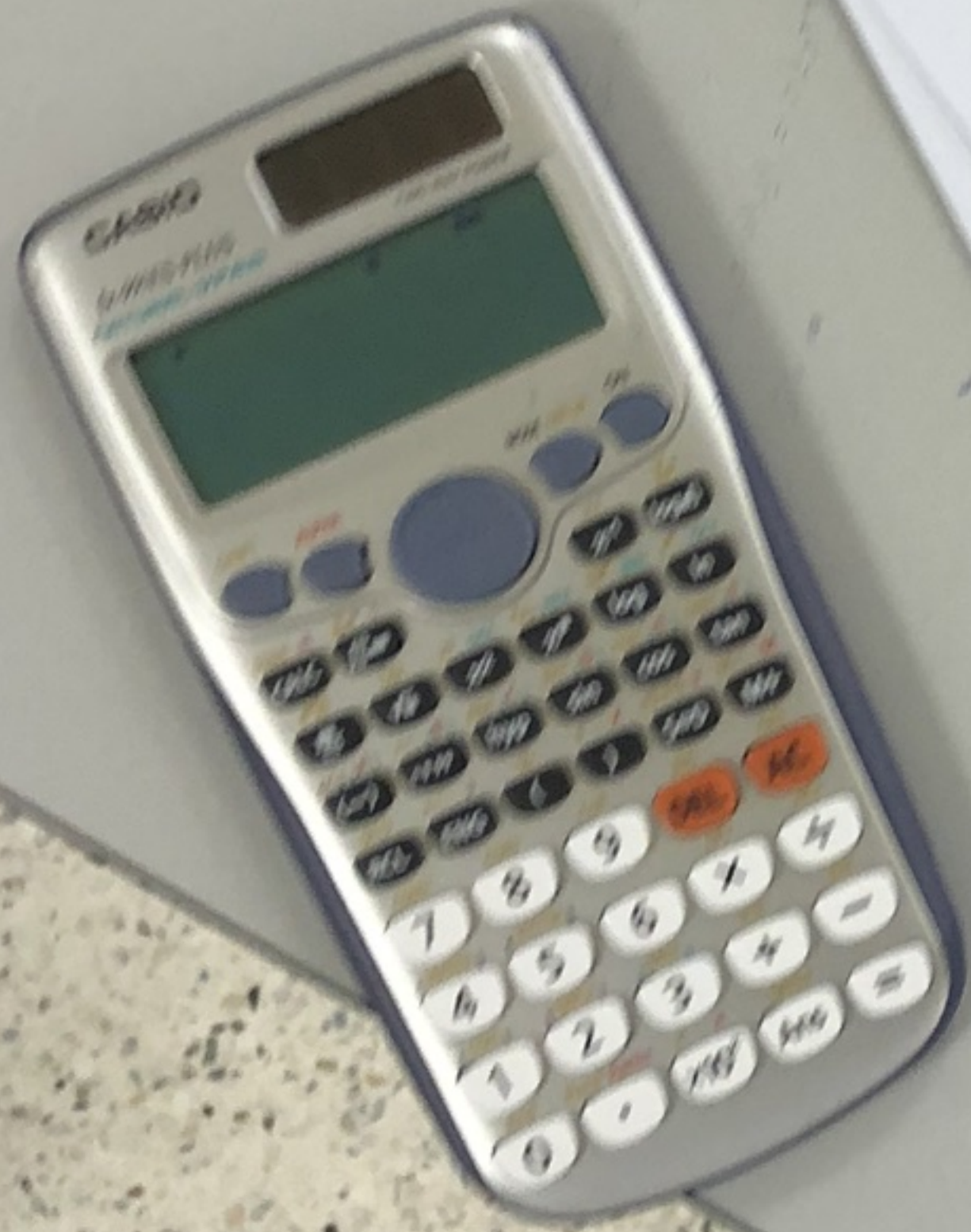
نصيب وفاء:

$$54000 - 180000 = \frac{30000}{1000000} \times 180000$$

نصيب امان:

$$36000 - 180000 = \frac{200000}{1000000} \times 180000$$

الخبر 2



1. معدل الفائدة  
 في 15/10/2008  
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 في 15/10/2008  
 في 15/10/2008

2. معدل الفائدة  
 في 15/10/2008  
 في 15/10/2008  
 في 15/10/2008  
 في 15/10/2008  
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3. معدل الفائدة  
 في 15/10/2008  
 في 15/10/2008  
 في 15/10/2008  
 في 15/10/2008  
 في 15/10/2008

4. معدل الفائدة  
 في 15/10/2008  
 في 15/10/2008  
 في 15/10/2008  
 في 15/10/2008  
 في 15/10/2008

نموذج أ

4. The expected loss for each owner after risk pooling.

(1 mark)

.....  
.....

5. The standard deviation (SD2) for the expected value of the loss after risk pooling.

(1 mark)

.....  
.....  
.....

6. Determine the coefficient of variation before risk pooling (CV1) and after risk pooling (CV2) (1 mark)

.....  
.....

**Exercise 2:**

(7 Marks)

The claim amounts for a fire insurance company is a random variable that follows the distribution bellow :

$$f(x) = 0.08 e^{-0.08x}, \text{ if } x \geq 0, \text{ and } 0 \text{ otherwise}$$

1. Calculate the **mean** and the **variance** of the claim amounts.

(1 mark)

.....  
.....

2. What is the probability that the claim amount is **greater than or equal** to 50 SAR?

(2 marks)

.....  
.....

3. Deduce the probability that the claim amount is **less than or equal** to 50 SAR.

(2 marks)

.....  
.....

4. Find the probability that the claim amount is **between** 50 and 100 SAR.

(2 marks)

.....  
.....  
.....

**Exercise 1:**

(7 Marks)

Assume that two business owners each own an identical storage building valued at \$ 30,000.

- A)** Assume there is 25 percent chance in any year that each building will be destroyed by .  
 peril, and that a loss to either building is an independent event.
1. Determine the expected annual loss for each business owner.
  2. Calculate the standard deviation (SD1) for the expected value of the loss.

- B)** Suppose instead of bearing the risk of loss individually, the two owners decide to pool their  
 loss exposures, and each agrees to pay an equal share of any loss that might occur.
3. Calculate the probability of the possible outcomes under this scenario.
  4. Determine the expected annual loss for each business owner after risk pooling.
  5. Determine the standard deviation (SD2) for the expected value of the loss after risk pooling.
  6. Determine the coefficient of variation before risk pooling (CV1) and after risk pooling (CV2).

**Solution:**

**A)**

1. The expected annual loss for each owner .

(1 mark)

.....

.....

2. The standard deviation (SD1) for the expected value of the loss.

(1 mark)

.....

.....

3. The probability of possible outcomes.

(2 mark)

Possible outcomes	Probability
Neither building is destroyed	.....
First building is destroyed, second building no loss	.....
First building no loss, second building is destroyed	.....
Both building are destroyed	.....