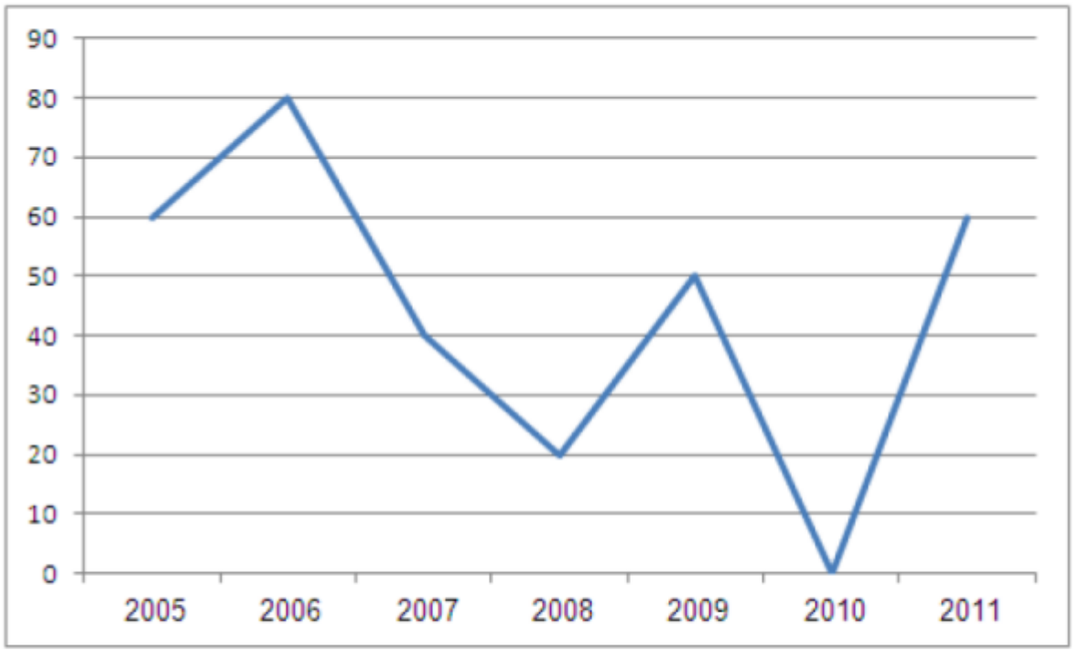
GRAPHS / Charts / Data

Free reviewer for all… arranged by Leonalyn Mutia-Tayone

Introduction to Economics Exam Statistics (% of students who passed)

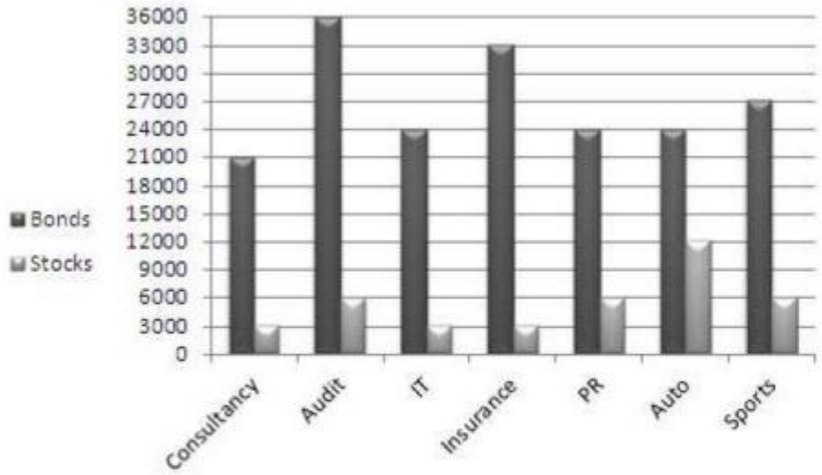


1. In which of the following years did over 2/3 of the students who took the exam not pass it?
   a. 2005 b. 2006 c. 2008 d. 2009 e. Cannot say

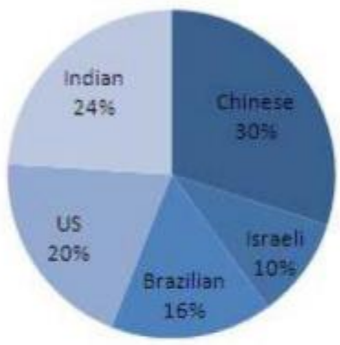
2. It is known that a quarter of the students who passed the exam in 2007, passed it at the first trial. Assuming each exam has two trials, what percentage of all the students who took the exam that year passed it in the second trial?
   a. 10 b. 15 c. 30 d. 75 e. Cannot say

T.M. Funds - 2011

Distribution of Securities (000s)

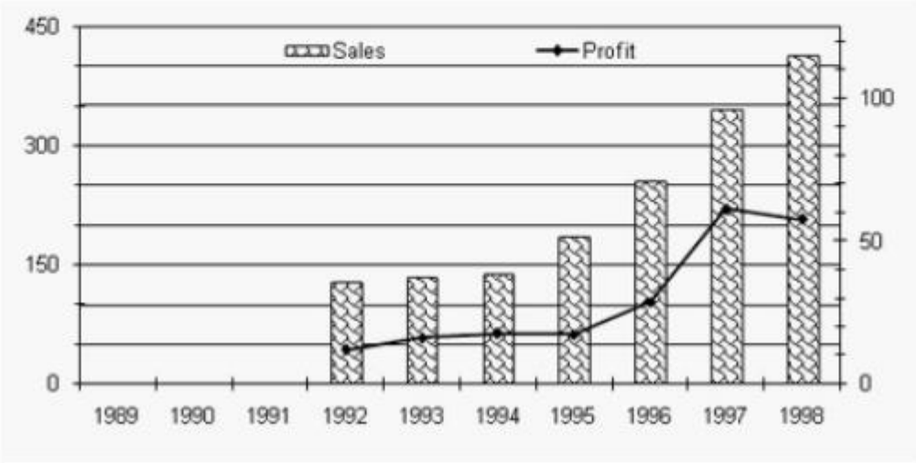


Origin of Insurance Securities



3. If the number of Chinese Insurance stocks represented 3.5% of all Insurance securities, approximately how many Insurance bonds were Chinese?
   a. 9,200,000
   b. 9,500,000
   c. 10,800,000
   d. 910,000
   e. 1,080,000

For questions 4 to 6, Refer to the following graph of sales and profit figures of ABC Ltd and answer the questions that follow.



4. I Return on sales (Profit/sales) was highest in which year?

a. 1995 b. 1996 c. 1997 d. 1998 e. cannot say

5. How many times return on sales (profit/sales) exceeded 15 % ?

a. once b. twice c. thrice d. four times e. never

6. How many times growth in profit over the previous year exceeded 50% was registered ?

a. once b. twice c. thrice d. four times e. never

CORRECT ANSWERS:

Graphs / Charts

1. c.) 2008

We're looking for a year in which over 2/3 of the students failed. In fact we're looking for a year in which less than a third of the students passed.

There are two years that match the criteria: 2008 and 2010, but only 2008 appear as an optional answer.

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2. c.) 30

This question looks for a percentage rather than an absolute number. Therefore, the number we choose for carrying the calculation is arbitrary! We could also just use x or any other number. For example:

Call the number of students who took the test X. The chart indicates that 40% of X passed the test, which is 0.4*X.
If a quarter of 0.4*X passed it in the first trial, then three quarters passed it in the second trial:
0.75*0.4*X=0.3*X. 0.3 is equal to 30%

Tip: Use the number 100! According to the chart, out of the 100 students, 40% passed it in
one of the trials, which is equal to 40 students.
Out of the 40 students who passed the exam, a quarter (25%), passed it on the first trial.
That is: 40*0.25=10

Therefore, 30 students (40-10) passed the second trial. These 30 make 30% of the 100 who took the exam.

3. b.) 9,500,000

Chinese Insurance Stocks comprise 3.5% of all Insurance securities, which leaves 26.5% of
Chinese bonds.
The total number of Insurance securities is:
33,000,000+3,000,000= 36,000,000

Now we only need to calculate 26.5% of 36,000,000:
(36,000,000*0.265) = 9,540,000, which is approximately 9,500,000

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4. c.) 1997

Return on sales in 1995 = 20/180 or 0.111
Return on sales in 1996 = 30/260 or 0.115
Return on sales in 1997 = 60/345 or 0.173
Return on sales in 1998 = 55/420 or 0.130
So, the highest return comes in 1997.

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5. a.) once

Return on sales in 1992 = 12/130 or 0.09
Return on sales in 1993 = 18/135 or 0.13
Return on sales in 1994 = 19/140 or 0.13
Return on sales in 1995 = 20/180 or 0.111
Return on sales in 1996 = 30/260 or 0.115
Return on sales in 1997 = 60/345 or 0.173
Return on sales in 1998 = 55/420 or 0.130
Return on sales exceeds 15% only in 1997.

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6. b.) twice

Profit growth exceeds 50% in 1996 i.e. from 18 to 30 and in 1997 from 30 to 60.This is not happening in any other year. Therefore answer is twice.

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136. (25)^0 - (-2)^4 + (-3^4) - (-8)^2 = ?
a. 2 b. 1 c. +161 d. +160 e. -160

137. -2^2 - (-9)^2 - (-3^2) + 15^0 = ?
a. -75 b. +75 c. -85 d. +85 e. 0

138. 20% of 30% of X is 225 what is the value of X
a. 13.5 b. 825 c. 375 d. 3750 e. 112.5

139. If the perimeter of a square is doubled, what happens to the area? _____
a. the area is twice its original.
b. the area is 4 times its original.
c. the area is 6 times its original.
d. the area is 8 times its original.

140. A one forth percent of a number is 25. What is the number?
a. 100 b. 1,000 c. 10,000 d. 100,000

136. e.) -160
(25)^0 - (-2)^4 + (-3^4) - (-8)^2 = ?
1 - (+16) + (- 81) - (+64) =
1 - 16 - 81 - 64 = -160✔
*Kung hindi -160 ang sagot nyo, panuorin nyo ng buo ito:
https://www.youtube.com/watch?v=ERakk0YVwT8&t=5s
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137. a.) -75
-2^2 - (-9)^2 - (-3^2) + 15^0 = ?
-4 - (+81) - (-9) + 1 =
-4 - 81 + 9 + 1 =
-85 + 9 + 1 =
-76 + 1 = -75✔
*recheck with your own calculator
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138. d.) 3750
note:
of ---> ×
is ---> =
20% of 30% of X is 225
20% × 30% × X = 225
0.2 × 0.3 × X = 225
0.06X = 225
X = 225/0.06
X = 3750 ✔
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Cont..... for 140....
Now, let's proceed:
1/4 % × n = 25
0.0025 n = 25
n = 25/0.0025
n = 10,000

How to divide without using calculator: ✍
25 ÷ 0.0025 = nasa 4th place ang decimal "0.0025".
Kalimutan muna ang decimal at gawing 25 lang.

25 ÷ 25 = 1
Division sya kaya yung decimal mong nasa pang-apat,
magcount ka rin ng apat going to the RIGHT--->
at maglagay ng apat ng zeros....
1 + 0000 -----> 10,000 answer

Checking:
1/4 % × n = 25
1/4 % × 10,000 = 25
0.0025 × 10,000 = 25
25 = 25
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139. b. the area is 4 times its original.
Let n be the sides of the square
perimeter n+n+n+n = perimeter
n × n = area
(n^2)/(n+n+n+n) = X/(n+n+n+n)^2
(n^2)(4n)^2 = X (4n)
[(n^2)(4n)^2]/(4n) = X
(n^2)(4n) = X
therefore, if the perimeter of a square is doubled, "the area is 4 times its original."
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140. c.) 10,000
One forth percent of a number is 25.
Q: What is a number?
NOTE: of ---> "×"
is ---> "="
Let n be our number

Solution:
One forth percent ---> 1/4 %

of a number ---> × n

is 25 ---> = 25

Ipagsama para mabuo ang equation:
1/4 % × n = 25

Convert 1/4% to plain fraction
1/4 % ÷ 100% =
1/4 × 1/100 = 1/400
or 1/400 = 0.0025

Convert 1/4 % to decimal
1/4 % = 0.25% PERCENT
0.25% ÷ 100% = 0.0025