ST. LAWRENCE HIGH SCHOOL

A JESUIT CHRISTIAN MINORITY INSTITUTION

CLASS 8

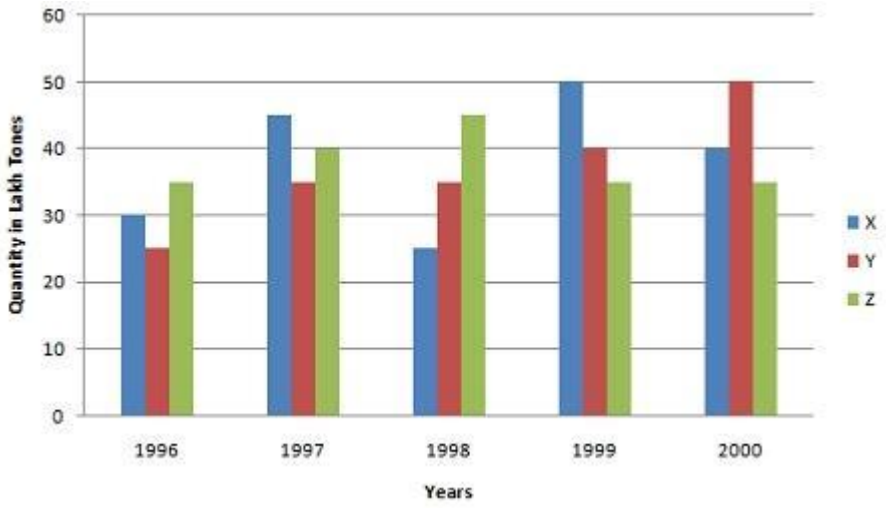
SUBJECT : Arithmetic **Work sheet 18 answer key**

Marks:15 **Graphical representation of data(Bar graphs)**

Date:27.4.2020

Answer all the following questions(1×15=15)

1. Production of paper (in lakh tonnes) by three companies X, Y and Z over the years. Study the graph and answer the questions that follow.



What is the difference between the production of company Z in 1998 and company Y in 1996?

- **A.** 2,00,000 tons
- **B.** 20,00,000 tons
- **C.** 20,000 tons
- **D.** 2,00,00,000 tons

Answer & Explanation

Answer: Option B

Explanation:

Required difference
= [(45 - 25) ×1,00,000] tones
= 20,00,000 tons.

2. What is the ratio of the average production of company X in the period 1998-2000 to the average production of company Y in the same period?

- **A.** 1:1
- **B.** 15:17
- **C.** 23:25
- **D.** 27:29

Answer & Explanation

Answer: Option C

Explanation:

Average production of company X in the period 1998-2000 = [1/3 × (25 + 50 + 40)] = (115/3) lakh tons.

Average production of company Y in the period 1998-2000 = [1/3 × (35 + 40 + 50)] = (125/3) lakh tons.

Required ratio = (115/3)/(125/3) = 115/125 = 23/25

3. What is the percentage increase in the production of company Y from 1996 to 1999?

- **A.** 30%
- **B.** 45%
- **C.** 50%
- **D.** 60%

Answer & Explanation

Answer: Option D

Explanation:

Percentage increase in the production of company Y from 1996 to 1999
= [(40 - 25)/25 × 100]% = (15/25 × 100)% = 60%

4. The average production for five years was maximum for which company?

- **A.** X
- **B.** Y
- **C.** Z
- **D.** X and Z both

Answer & Explanation

Answer: Option: D

Explanation:

For company
X = [1/5 × (30 + 45 + 25 + 50 + 40)] = 190/5 = 38
For company
Y = [1/5 × (25 + 35 + 35 + 50 + 40)] = 185/5 = 37
For company
Z = [1/5 × (35 + 40 + 45 + 35 + 35)] = 190/5 = 38 Average production of five years in maximum for both the companies X and Z.

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5. In which year was the percentage of production of company Z to the production of company Y the maximum?

- **A.** 1996
- **B.** 1997
- **C.** 1998
- **D.** 1999

Answer & Explanation

Answer: Option A

Explanation:

The percentage of production of company Z to the production of company Z for various years are:
For 1996 = (35/25 ×100)% = 140%
For 1997 = (40/35 × 100)% = 114.29%
For 1998 = (45/35 ×100)% = 128.57%
For 1999 = (35/40 ×100)% = 87.5%
For 2000 = (35/50 × 100)% = 70%
Clearly, this percentage is highest for 1996

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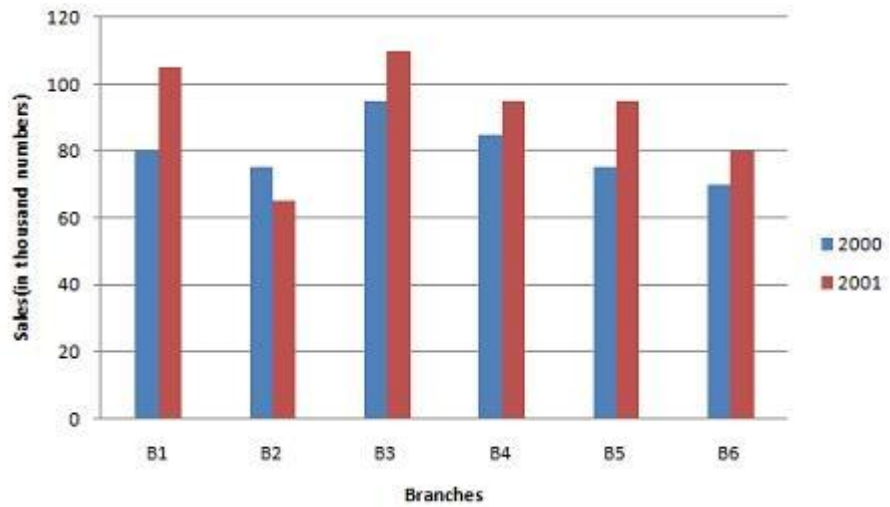
6. The bar-graph provided gives the Sales of books (in thousand numbers) from six branches - B1, B2, B3, B4, B5 and B6 of a publishing company in 2000 and 2001.



Total sales of branches B1, B3 and B5 together for both the years(in thousand numbers) is :

- **A.** 250
- **B.** 310
- **C.** 435
- **D.** 560

Answer & Explanation

Answer: Option D

Explanation:

Total sales of branches B1, B3 and B5 for both the years(in thousand numbers)
= (80 + 105) + (95 + 110) + (75 + 95) = 560

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7. Total sales of branches B6 for both the years is what percent of the total sales of branch B3 for both the years?

- **A.** 68.54%
- **B.** 71.11%
- **C.** 73.17%
- **D.** 75.55%

Answer & Explanation

Answer: Option C

Explanation:

Required Percentage = [(70 + 80)/(95 + 110) ×100]% = (150/205 ×100)% = 73.17%

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What is the average sale of all the branches (in thousand numbers) for the year 2000?

- **A.** 73
- **B.** 80
- **C.** 83
- **D.** 88

Answer & Explanation

Answer: Option B

Explanation:

Average sales of all the six branches(in thousand numbers) for the year 2006
= 1/6 × [80 + 75 + 95 + 85 + 75 + 70] = 80

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9. What is the ratio of the total sales of branch B2 for both years to the total sales of branch B4 for both years?

- **A.** 2:3
- **B.** 3:5
- **C.** 4:5
- **D.** 7:9

Answer & Explanation

Answer: Option D

Explanation:

Required Ratio = (75 + 65)/(85 + 95) = 140/180 = 7/9

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10. What percent of the average sales of branches B1, B2 and B3 in 2001 is the average sales of branches B1, B3 and B6 in 2000?

- **A.** 75%
- **B.** 77.5%
- **C.** 82.5%
- **D.** 87.5%

Answer & Explanation

Answer: Option D

Explanation:

Average sales of branches B1, B3 and B6 in 2000 = 1/3 ×(80 + 95 + 70) = 245/3
Average sales of branches B1, B2 and B3 in 2001 = 1/3 × (105 + 65 + 110) = 280/3
= [(245/3)/(280/3) × 100]%
= (245/280 ×100)% = 87.5%

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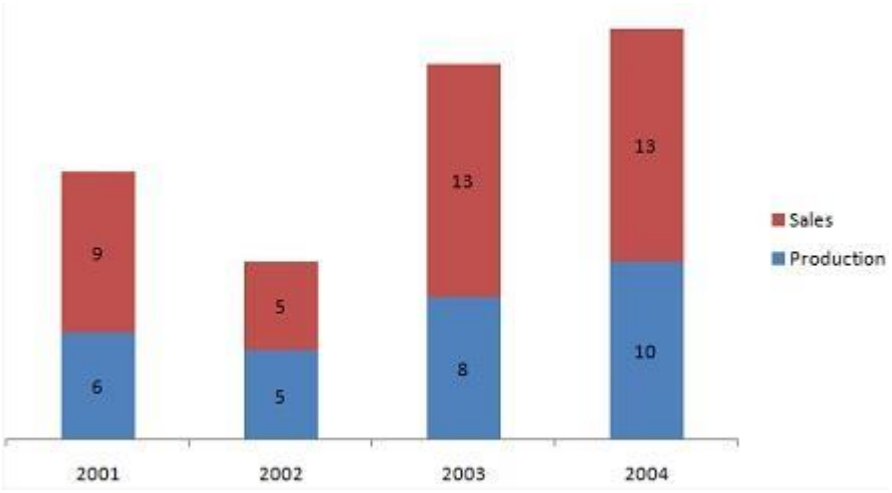
11. The bar chart shows production and sales of air-conditioners(in thousands) over the years 2001 to 2004. Observe the bar chart and answer the following questions :



The year in which production is equal to sales?

- **A.** 2004
- **B.** 2002
- **C.** 2003
- **D.** 2004

Answer & Explanation

Answer: Option B

Explanation:

Production is equal to sales in 2002

12. The number of years in which sales is more than production are?

- **A.** 2
- **B.** 3
- **C.** 4
- **D.** 1

Answer & Explanation

Answer: Option B

Explanation:

Sales is more than production in 2001, 2003 and 2004. Hence 3 such years.

13. What approximately is the percentage of sales is production in the year 2004?

- **A.** 77%
- **B.** 78%
- **C.** 76%
- **D.** 75%

Answer & Explanation

Answer: Option A

Explanation:

Required percentage = 10/13 × 100% = 77%

14. The percentage by which sales exceeds production in 2004 is?

- **A.** 39%
- **B.** 30%
- **C.** 15%
- **D.** 27%

Answer & Explanation

Answer: Option B

Explanation:

Required percentage = 3/10 ×100% = 30%

15. The ratio of sale to production is 2001 and 2003 taken together is?

- **A.** 7:11
- **B.** 9:7
- **C.** 7:9
- **D.** 11:7

Answer & Explanation

Answer: Option D

Explanation:

Required ratio
= (9 + 13) : (6 + 8)
= 22 : 14 = 11 : 7