Bellwork Alg 2 Tuesday, February 26, 2019

1. Find this difference. $\frac{12}{x^2+x-30} - \frac{7}{x^2-3x-10}$

2. The table below shows the monthly electric bills of Joe and Sam for the first five months of a year.

	Joe	Sam
Jan	$184.66	$188.99
Feb	$193.12	181.27
Mar	$175.99	176.35
Apr	$145.30	$149.23
May	$180.33	$185.66

Based on the information in the table, which of these statements is true about the ranges and medians of the bills?

A) Both the range and median of Joe's bills are less than the range and median of Sam's bills.

B) Both the range and the median of Joe's bill's are greater than the range and median of Sam's bills.

C) The range of Joe's bills is less than the range of Sam's bills, while the median of Joe's bills is greater than the median of Sam's bills.

D) The range of Joe's bills is greater than the range of Sam's bills, while the median of Joe's bills is less than the median of Sam's bills.

Use the table below for questions 3 to 6. The table below presents information about the 810 train cars in service on a railroad.

	In service less than 10 yrs	In service 10 or more yrs
Single Level	215	497
Double-decker	16	82

3. Approximately what percentage of the train cars in service are double-decker cars that have been in service for less than 10 years?

A) 2% B) 7% C) 10% D) 16%

4. What is the probability that if you ride a random train car that it is Single Level train car?

5. What is the probability that if you ride a random train car that has been in service for 10 or more years it is a double-decker?

6. If you ride a random train car for the next 80 days how many of these would you expect to have been in service for less than 10 years?

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ANSWERS

1. Find this difference. $\frac{12}{x^2+x-30} - \frac{7}{x^2-3x-10}$

$\frac{(x+2)}{(x+2)} \cdot \frac{12}{(x+6)(x-5)} - \frac{7}{(x-5)(x+2)} \cdot \frac{(x+6)}{(x+6)}$

$\frac{12x+24-7x-42}{(x+2)(x+6)(x-5)} = \boxed{\frac{5x-18}{(x+2)(x+6)(x-5)}}$

2. The table below shows the monthly electric bills of Joe and Sam for the first five months of a year.

	Joe	Sam
Jan	$184.66	$188.99
Feb	$193.12	181.27
Mar	$175.99	176.35
Apr	$145.30	$149.23
May	$180.33	$185.66

	Range	median
Joe	193.12 − 145.30 = 47.82	180.33
Sam	188.99 − 149.23 = 39.76	181.27

Based on the information in the table, which of these statements is true about the ranges and medians of the bills?

A) Both the range and median of Joe's bills are less than the range and median of Sam's bills.

B) Both the range and the median of Joe's bill's are greater than the range and median of Sam's bills.

C) The range of Joe's bills is less than the range of Sam's bills, while the median of Joe's bills is greater than the median of Sam's bills.

D) The range of Joe's bills is greater than the range of Sam's bills, while the median of Joe's bills is less than the median of Sam's bills.

Use the table below for questions 3 to 6. The table below presents information about the 810 train cars in service on a railroad.

	In service less than 10 yrs	In service 10 or more yrs	
Single Level	215	497	712
Double-decker	16	82	98
	231	579	810

3. Approximately what percentage of the train cars in service are double-decker cars that have been in service for less than 10 years?

A) 2% B) 7% C) 10% D) 16%

16

$\frac{16}{810} \times 100 = 1.975\%$

4. What is the probability that if you ride a random train car that it is Single Level train car?

$\frac{712}{810} = \boxed{0.879}$

5. What is the probability that if you ride a random train car that has been in service for 10 or more years it is a double-decker?

82 / 579

$82/579 = \boxed{0.142}$

6. If you ride a random train car for the next 80 days how many of these would you expect to have been in service for less than 10 years?

$\frac{231}{810_{TOT}}$ (in service < 10 yrs) $= \frac{x}{80_{TOT}}$

$\approx$ 23 train cars