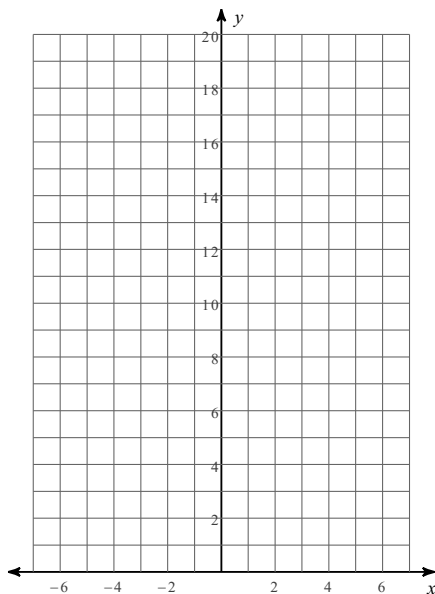


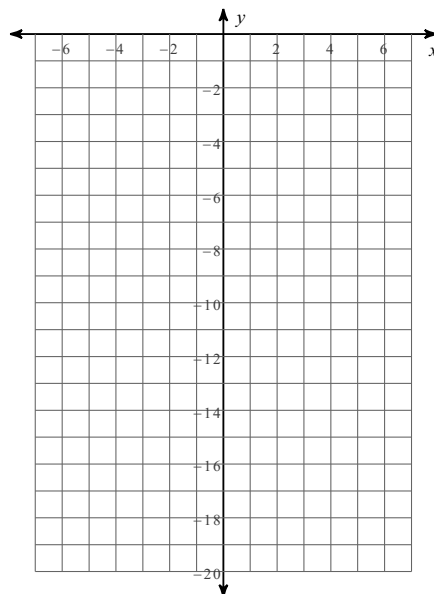
SEM2 Final Exam Review pt. 2

Sketch the graph of each function.

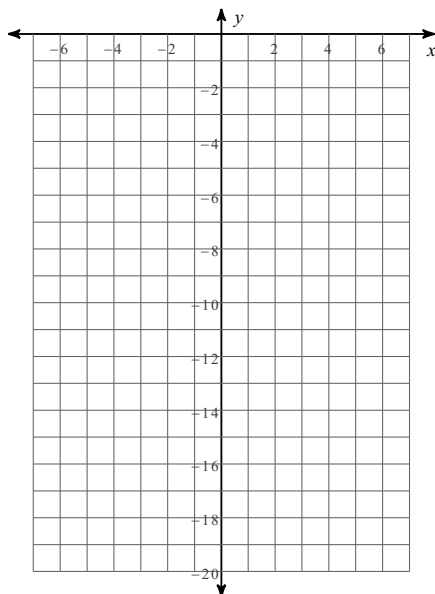
1) $y = 4 \cdot \left(\frac{1}{2}\right)^x$



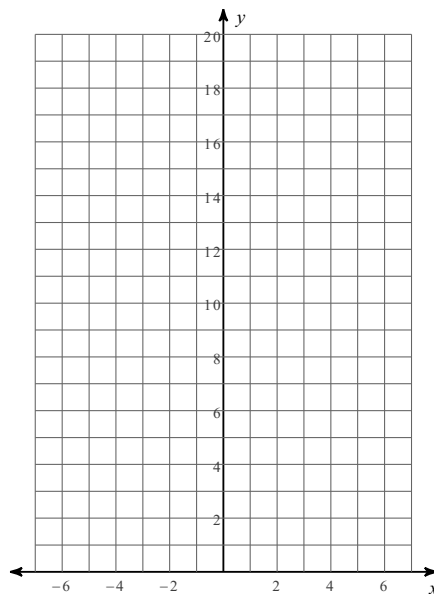
2) $y = -5 \cdot \left(\frac{1}{2}\right)^x$



3) $y = -3 \cdot 2^x$

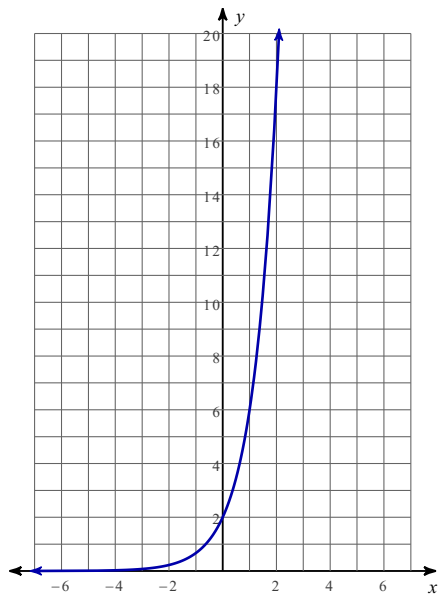


4) $y = 4 \cdot 2^x$

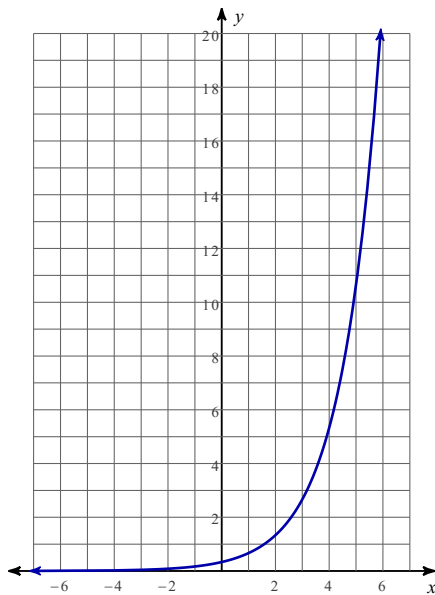


Write an equation for each graph.

5)

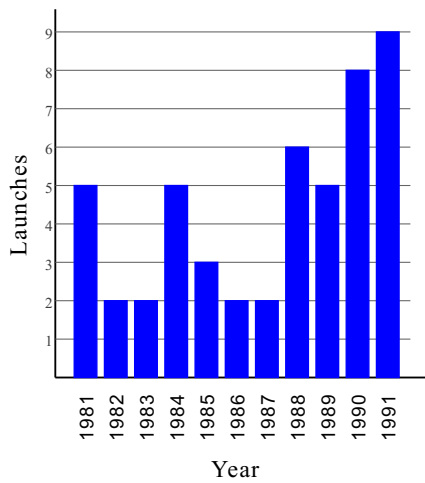


6)



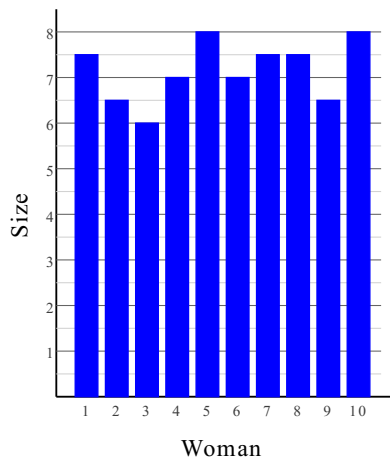
Find the mode, median, and mean for each data set.

7) European Spacecraft Launches

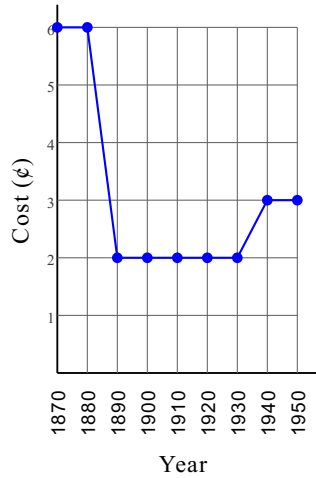


8)

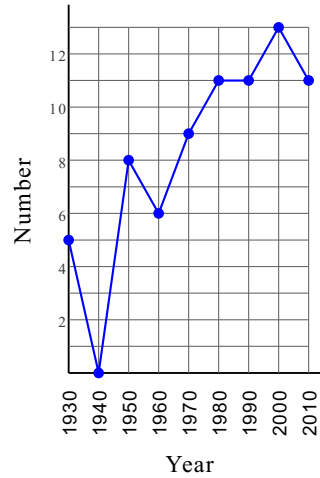
Shoe Size



9) Cost of a Stamp



10) Nobel Laureates



Find the mode, median, mean, lower quartile, upper quartile, and interquartile range for each data set.

11) Age at First Job

13 18 14 19 17 15 16
17 17 22 14

12) Hits in a Round of Hacky Sack

7 11 3 5 4 3 6 6
2

Find the mode, median, and mean for each data set.

13) Minutes to Run 5km

Stem	Leaf
1	9
2	8 9
3	2 5 8 9
4	1 7 7

Key: 3|2 = 32

14) Olympic Medals Won

Stem	Leaf
0	3 4 8
1	1 2 3 3 7
2	
3	4

Key: 1|2 = 12

15) Games per World Series

Games	Frequency
4	3
5	2
6	2
7	4

16) Adult Male Heights

Inches	Frequency
67	1
72	3
73	2
75	3

Draw a histogram for each data set.

17)

Academy Awards

Movie	# Awards
Chariots of Fire	4
Cimarron	3
Wings	2
Ordinary People	4

Movie	# Awards
It Happened One Night	5
From Here to Eternity	8
The Departed	4

Movie	# Awards
The Artist	5
The Silence of the Lambs	5
The Sound of Music	5

18)

Life Expectancy

State	Years
Kansas	78.6
Vermont	80.4
Rhode Island	79.7
Tennessee	77.9
Virginia	82.5
Arizona	79.3

State	Years
Ohio	81
West Virginia	74.1
New Jersey	82.4
North Carolina	79.6
Arkansas	74.2

Draw a stem-and-leaf plot for each data set.

19)

Nobel Laureates

Name	Age	Name	Age
Leymah Roberta Gbowee	39	Arno Allan Penzias	45
Gabriel José García-Márquez Moncondo	54	Aaron J. Ciechanover	57
Phillip Allen Sharp	49	Elizabeth "Betty" Williams-Perkins	33
Charles Hard Townes	49	Harold Walter Kroto	57
Tawakul Abdel-Salam Karman	32	Reinhard Justus Reginald Selten	64
Günter J. Blobel	63		

20)

Large US Cities

City	Population	City	Population	City	Population	City	Population
Fresno	494,665	St. Petersburg	244,769	Tucson	520,116	Durham	228,330
Anaheim	336,265	Kansas City	459,787	Richmond	204,214	Albuquerque	545,852
Baton Rouge	229,493	Garland	226,876				

Draw a box-and-whisker plot for each data set.

21) Mountain Heights

Name	Feet
Annapurna III	24,787
Gurla Mandhata	25,243
Jomolhari	24,035
Chamlang	24,019
Ngadi Chuli	25,823
Baltistan Peak	23,891
Manaslu	26,781
Skyang Kangri	24,754
Ultrar	24,239

22) 2012 Summer Olympics

Country	Medals	Country	Medals
Netherlands	20	Cuba	15
Russia	81	Germany	44
Norway	4	Turkey	5
Denmark	9	Colombia	8
Great Britain	65		

Simplify.

23) $(-5i)(6i)$

24) $(6i)(5i)(2i)$

25) $\frac{8 + 2i}{1 + 4i}$

26) $\frac{1}{5 + 8i}$

Determine if the sequence is geometric. If it is, find the common ratio.

27) 4, 7, 12, 19, ...

28) -3, 15, -75, 375, ...

Given the explicit formula for a geometric sequence find the first five terms.

29) $a_n = -(-3)^{n-1}$

30) $a_n = 4 \cdot (-6)^{n-1}$

Given two terms in a geometric sequence find the common ratio and the 8th term.

31) $a_6 = \frac{32}{81}$ and $a_5 = \frac{16}{27}$

32) $a_1 = -0.6$ and $a_6 = -1875$