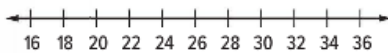# 3.6.20

Grab a calculator.

At The Bell: **PSSA:** pg. 708 Power Up!

Power Up! Common Core Test Practice

14. The table shows the ages of people standing in line for tickets to see a movie. Find each of the follow values for the data set.

Ages				
18	22	31	25	30
19	26	24	35	25

Minimum: ☐   First Quartile: ☐   Median: ☐

Third Quartile: ☐   Maximum: ☐

Draw a box plot to represent the set of data.

16 18 20 22 24 26 28 30 32 34 36

15. The speeds, in miles per hour, of several cars on a busy street are shown. Determine if each statement is true or false.

42	38	44	35	50	38

a. The range of the speeds is 12 miles per hour.   ☐ True   ☐ False

b. The mean is the measure of center that makes the speeds appear fastest.   ☐ True   ☐ False

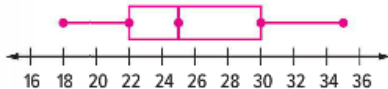c. The median is the measure of center that makes the speeds appear slowest.   ☐ True   ☐ False

---

Power Up! Common Core Test Practice

14. The table shows the ages of people standing in line for tickets to see a movie. Find each of the follow values for the data set.

Ages				
~~18~~	~~22~~	31	~~25~~	30
~~19~~	~~26~~	~~24~~	35	~~25~~

Minimum: **18**   First Quartile: **22**   Median: **25**

Third Quartile: **30**   Maximum: **35**

Draw a box plot to represent the set of data.

16 18 20 22 24 26 28 30 32 34 36

Handwritten work:

Q_1 Q_2 Q_3

18 19 ⑳22 24 25 25 26 ㉚30 31 35

35 38 38 42 44 50   (40)

15. The speeds, in miles per hour, of several cars on a busy street are shown. Determine if each statement is true or false.

42	~~38~~	44	~~35~~	50	~~38~~

a. The range of the speeds is 12 miles per hour.   ☐ True   ■ False

b. The mean is the measure of center that makes the speeds appear fastest.   ■ True   ☐ False

c. The median is the measure of center that makes the speeds appear slowest.   ☐ True   ■ False

Handwritten work:

$50 - 35 = 15$

Mean: $\dfrac{247}{6} = 41.\overline{6}$

Independent Practice   pg. 705   Go online for Step-by-Step Solutions   eHelp

Find the mean, median, mode, and range of each data set. Round to the nearest tenth if necessary. (Example 1)

🏠 Roller coaster speeds shown in the table at the right

Show your work

mean: 103.1; median: 100; mode: 100; range: 46

2. Number of words in magazine articles: 115, 118, 115, 100, 97, 105

mean: 108.3; median: 110; mode: 115; range: 21

Fastest Roller Coasters	
Coaster	**Speed (mph)**
Dodonpa	107
Kingda Ka	128
Millennium Force	93
Phantom's Revenge	82
Steel Dragon 2000	95
Superman: The Escape	100
Top Thrill Dragster	120
Tower of Terror	100

Find the five-number summary of each set of data. Then draw a box plot of the data. (Example 2)

3.

Number of Days of Incubation Periods for Pet Birds	
Australian King Parrot	20
Glossy Cockatoo	30
Major Mitchell's Cockatoo	26
Princess Parrot	21
Red-Tailed Cockatoo	30
Red-Winged Parrot	21
Regent Parrot	21
Superb Parrot	20
White-Tailed Cockatoo	29
Yellow-Tailed Cockatoo	29

minimum: 20; Q_1: 21; median: 23.5; Q_3: 29; maximum: 30

4.
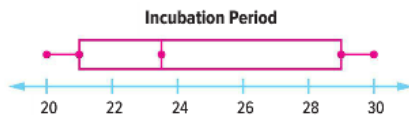
Top Ten Countries Average Weekly Teen Spending	
Norway	$49.70
Sweden	$41.70
Brazil	$41.30
Argentina	$40.50
Hong Kong	$38.00
United States	$37.60
Denmark	$37.40
Singapore	$34.10
Greece	$32.90
France	$31.30

minimum: $31.30; Q_1: $34.10; median: $37.80; Q_3: $41.30; maximum: $49.70

Incubation Period

20   22   24   26   28   30

Teen Spending

30 32 34 36 38 40 42 44 46 48 50
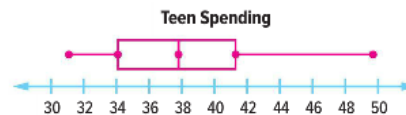
pg. 706

5. 🛑 **Multiple Representations** A restaurant conducted a survey asking its customers to rate the new menu using a scale of 1 to 20. The results of the survey are shown in the line plot.
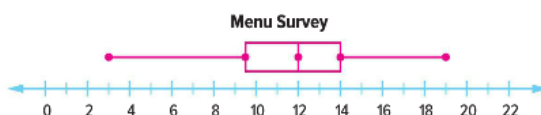
Restaurant Survey Results

0   2   4   6   8   10   12   14   16   18   20

a. **Numbers** Find the mean, median, mode, and range of the data set. Round to the nearest tenth if necessary.

mean: 11.6; median: 12; mode: 14; range: 16

b. **Numbers** Find the five-number summary of the data set.

minimum: 3; Q_1: 9.5; median: 12; Q_3: 14; maximum: 19

c. **Graphs** Draw a box plot to represent the set of data.

Menu Survey

0   2   4   6   8   10   12   14   16   18   20   22

What Happened After Orgo Bought
Snow Tires?

Cross out each box containing the correct answer to an exercise. When you finish, write the letters from the boxes that are not crossed out in the boxes at the bottom of the page.

① Find the median for each set of numbers.
  A. $\{26, 34, 45, 61, 69\}$
  B. $\{1.8, 1.9, 2.3, 2.5, 2.9, 3.4, 4.2, 4.8\}$
  C. $\{3, 7, 7, 7, 12, 15, 16, 18, 18, 18, 23, 31\}$
  D. $\{5.4, 2.5, 3.6, 9.7, 6.1, 5.8, 1.3, 8.8, 2.5, 7.4\}$

E. Price of Record Album "X" at various stores

$4.69	$4.25	$5.98
5.50	5.98	6.50
4.49	4.75	5.25
4.95	4.39	5.29

② Five people earn the salaries given in the table.
  A. What is the mean salary?
  B. What is the median salary?

President	$420,000
Lawyer	35,000
Accountant	20,000
Secretary	14,000
Custodian	11,000

③ Find the mode of each set of numbers.

A.
Test Scores		
62	77	89
67	80	89
69	83	92
69	85	93
75	85	95
77	89	95
77	89	98

B.
Student Heights (m)			
1.47	1.55	1.65	1.72
1.48	1.58	1.66	1.72
1.48	1.58	1.66	1.75
1.53	1.60	1.66	1.78
1.53	1.64	1.69	1.81
1.54	1.65	1.70	1.88

C.
Outcomes for 30 Tosses of Two Dice				
9	10	5	7	7
2	3	5	6	4
7	8	5	4	6
6	7	9	11	9
6	8	12	9	7
4	11	10	8	3

④ The rainfall for a city is given in the table. Find the following:
  A. The mean rainfall per month
  B. The median rainfall per month
  C. The mode of the rainfall measurements

Month	Rainfall (cm)	Month	Rainfall (cm)
January	8.6	July	2.4
February	9.5	August	2.4
March	12.1	September	6.2
April	14.7	October	12.3
May	9.3	November	11.9
June	5.0	December	10.0

HE	PU	TH	AT	SL	EY	SO	ME	ID
1.66 m	5.6	1.65 m	$5.10	15.5	69	2.4 cm	9.1 cm	$100,000

BA	LL	FE	LT	IR	SN	SN	OW	ED
$20,000	45	7	$5.20	89	8.7 cm	2.7	9.4 cm	$90,000

Why Didn't the Physics Teacher Marry the Biology Teacher?

Find each correct answer at the bottom of the page and write the letter for that answer under it.

**1** For the box-and-whisker plot at the right, give the following:

O. the first quartile

E. the second quartile (median)

T. the third quartile

H. the range

8   25   36   44   60
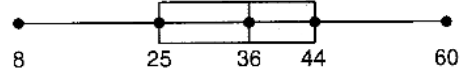
2 Arrange these scores in order from smallest to largest. Draw a box-and-whisker plot of the data under the number line at the right. Give the following:

TEST SCORES						
82	86	89	84	78	82	92
95	77	69	98	95	63	73

A. the median

I. the first quartile

E. the third quartile

C. the range

R. percent of the scores between the first and third quartiles

60   70   80   90   100
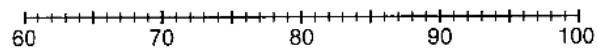
3 Arrange each set of heights in order from smallest to largest. Draw two box-and-whisker plots, one for boys and one for girls, under the number line at the right.

Heights of boys (in.):   64, 61, 66, 64, 58, 63, 68, 64, 60, 57, 65, 63, 69, 64, 64, 68, 61, 65

Heights of girls (in.):   63, 60, 67, 62, 58, 63, 68, 59, 62, 65, 56, 63, 59, 62, 58

Give the following:

T. the median for boys

E. the first quartile for boys

S. the third quartile for boys

Y. the median for girls

R. the first quartile for girls

H. the third quartile for girls

55   60   65   70
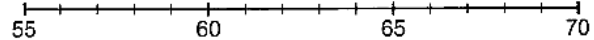
4 Match each description with the most reasonable box-and-whisper plot. Look for the median of this plot in the answer spaces. Write the exercise letter in that box.

N. Season scores of a baseball team

S. Resting heart rates (beats per minute)

W. Prices of 25-inch TV sets ($)

M. Ages at a Boy Scout meeting

227   294   341 375   499

0   3   5 6   13

11 12 13 15   38

52   64   71   80   90
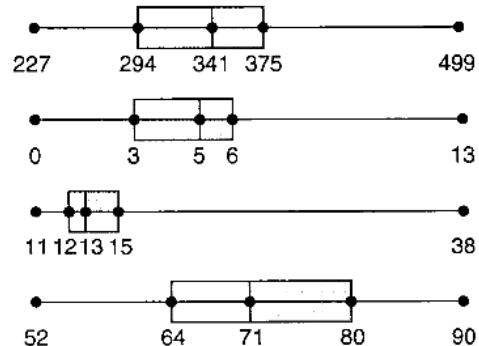
64	52	92	59	36	89	341	83	65	38	5	25	60	35	63	61	13	77	71	44	50	62