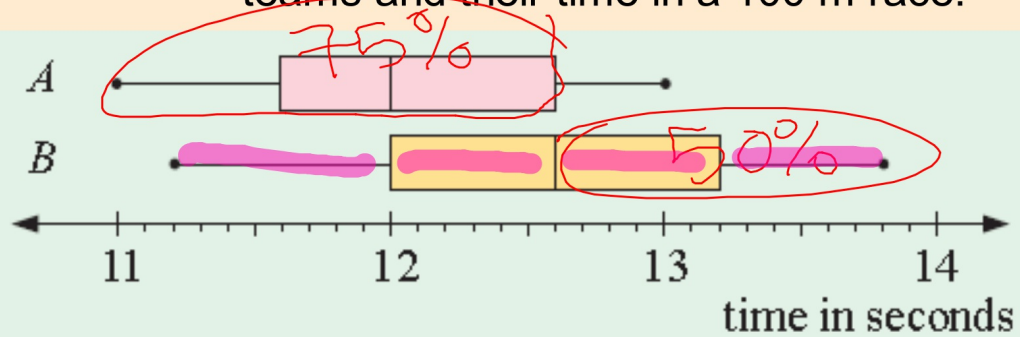


## Please reflect and file for next week!

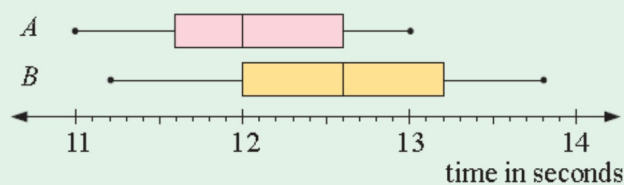
	Assignment Effort Grade (Circle One)	Comments (What was interesting or challenging?)
<b>Monday</b> Date: <u>4-23</u> Topic: <u>Friday was Quiz 7.1</u>	0 1 2	
<b>Tuesday</b> Date: <u>4-24</u> Topic: <u>17A Comparing Data Sets</u>	0 1 2	
<b>Wednesday</b> Date: <u>4-25</u> Topic: <u>17BC Comparing Data Displays</u>	0 1 2	
<b>Thursday</b> Date: <u>4-26</u> Topic: <u>Data Comparison Review</u>	0 1 2	
<b>Friday</b> Date: <u>4-27</u> Topic: <u>Data Comparison Assessment</u>	0 1 2	

Warm-up The parallel box plots below represent 2 teams and their time in a 100 m race.



What conclusions could be made?

**Warm-up** The parallel box plots below represent 2 teams and their time in a 100 m race.

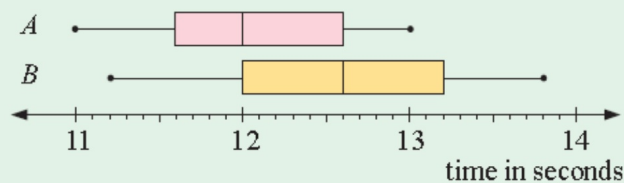


Complete the sentences.

What conclusions could be made?

- Team A likely  since their minimum time was  faster (lower) than team B.
- Team  consistent in their racing times. B has a spread of 2.6 seconds compared to A with  between their 1st and last finisher.
- 75% of team A is  than  of team B (Q<sub>3</sub> of team A is the median of B)

**Warm-up** The parallel box plots below represent 2 teams and their time in a 100 m race.



Complete the sentences.

What conclusions could be made?

- Team A likely won since their minimum time was 0.2 seconds faster (lower) than team B.
- Team B is less consistent in their racing times. B has a spread of 2.6 seconds compared to A with 2 seconds between their 1st and last finisher.
- 75% of team A is faster than half of team B (Q<sub>3</sub> of team A is the median of B)

## Class Plan:

- 1) Warm-up
- 2) Pass back quizzes  
(Exemplars posted).
- 3) Unit 7 Test Review  
Solutions on back :)

## Unit 7 Statistics Review Day!

DO: Look over Quiz 7.1...

What do you need to review?

10B Stem-and-leaf Plots

10C Histograms

10D Measures of Center

10F Measures of Spread

10G Box-and-Whiskers Plot

Done?

GET: Unit 7 Review Part 1

## 10B Stem Plot, 10D Median

For #1...

- Find the median height of the mountain.
- What percentage of the mountains are less than 25,000 feet tall?

Mountain Heights (ft)

Stem	Leaf
23	6 7
24	3 4 4 5 6 7 8
25	1 4 9
26	0 1 3 8
27	
28	3

*is 25,000*  
*Med*  
*24,800 feet*

*Finish the key*

Key: 24|5 = 24,500

*feet*

$$\frac{9}{17} \approx 52\%$$

## SOLUTION

For #1...

- a) Find the median height of the mountain.  
b) What percentage of the mountains are less than 25,000 feet tall?

→ count in 8 from below & above!  
17 pieces of data  
24,800 ft

1) Mountain Heights (ft)

Stem	Leaf
23	<del>6 7</del>
24	<del>3 4 4 5 6 7 8</del>
25	<del>1 4 9</del>
26	<del>0 1 3 8</del>
27	
28	<del>3</del>

Key: 24|5 = 24,500

b)  $\frac{9}{17} \approx 52.9\%$



## 10D Mean

For #2... Apply your knowledge of mean (average)

- 2) An athlete is trying to increase their average amount of pushups each week. This week, the athlete would like to do 50 each day. So far this week they have done 50,50,0,50,50,30. How many must they do on the last day of the week to have a mean of 50 pushups? Is this a realistic task?

## SOLUTION

For #2... Apply your knowledge of mean (average)

- 2) An athlete is trying to increase their average amount of pushups each week. This week, the athlete would like to do 50 each day. So far this week they have done 50,50,0,50,50,30. How many must they do on the last day of the week to have a mean of 50 pushups? Is this a realistic task?

$$\text{Mean} = \frac{\text{Sum of Data}}{\text{number of Data Pieces}}$$

$$50 = \frac{50+50+0+50+50+30+X}{7}$$

$$7(50) = \frac{(230+X)}{7} \cdot 7$$

$$350 = 230 + X$$

$$(20 = X)_{\text{push-ups}}$$

## 10F Spread

For #3...

- Find the median, lower quartile (middle of bottom half of data), and upper quartile (middle of upper half of data).
- Find the IQR and population standard deviation for each data set. What does this show you?

3)	Minutes to Run 5km				
	30	27.6	32.6	37.7	24.4
	37.2	18.5	38.8	26.1	23
	25.7	25.4	34.4	42.8	32.4
	31				

# SOLUTION

For #3...

- Find the median, lower quartile (middle of bottom half of data), and upper quartile (middle of upper half of data).
- Find the IQR and population standard deviation for each data set. What does this show you?

3) Minutes to Run 5km

<del>30</del>	<del>27.6</del>	<del>32.6</del>	<del>37.7</del>	<del>24.4</del>
<del>37.2</del>	<del>18.5</del>	<del>38.8</del>	<del>26.1</del>	<del>23</del>
<del>25.7</del>	<del>25.4</del>	<del>34.4</del>	<del>42.8</del>	<del>32.4</del>
31				

$n = 16$  runners

$Q_1 = 25.55$  min.

18.5, 23, 24.4, 25.4, 25.7, 26.1, 27.6,

30, 31, 32.4, 32.6, 34.4, 37.2, 37.7, 38.8, 42.8

Median = 30.5

minutes

## SOLUTION

For #3...

- Find the median, lower quartile (middle of bottom half of data), and upper quartile (middle of upper half of data).
- Find the IQR and population standard deviation for each data set. What does this show you?

3) Minutes to Run 5km

30	27.6	32.6	37.7	24.4
37.2	18.5	38.8	26.1	23
25.7	25.4	34.4	42.8	32.4
31				

$$b) \sigma_x \approx 6.4$$
$$IQR = 10.25$$

On average, each runner's time is 6.4 minutes away (above or below) the mean time of 30.475 minutes.

The middle 50% of the data is 10.25 minutes apart.

The runners times are relatively spread out. The data is evenly distributed (looking at box plot... no outliers)

## 10G Box-and-whisker Plot

4) Create a box and whiskers plot using the data above.

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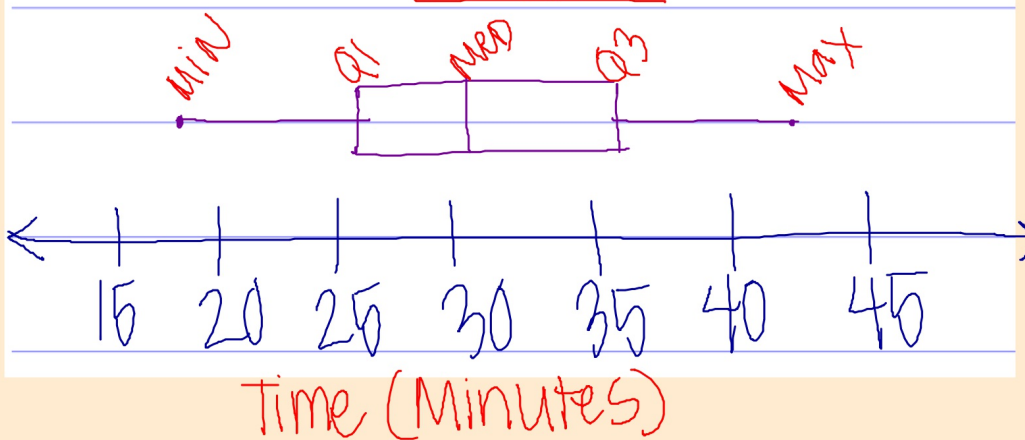
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**SOLUTION** {18.5, 25.55, 30.5, 35.8, 42.8}

4) Create a box and whiskers plot using the data above.

5K Race

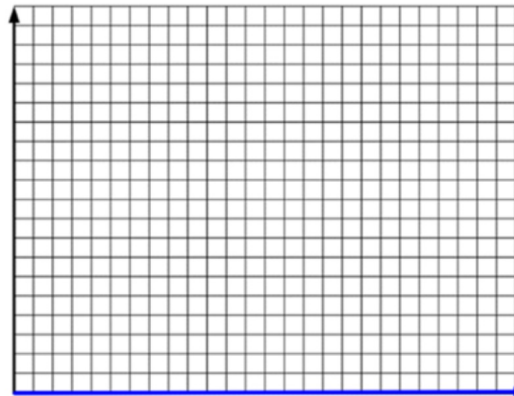


# 10C Histogram

5. Create a frequency histogram with the 5k times.

18.5, 23, 24.4, 25.4, 25.7, 26.1, 27.6, 30, 31, 32.4, 32.6, 34.4, 37.2, 37.7, 38.8, 42.8

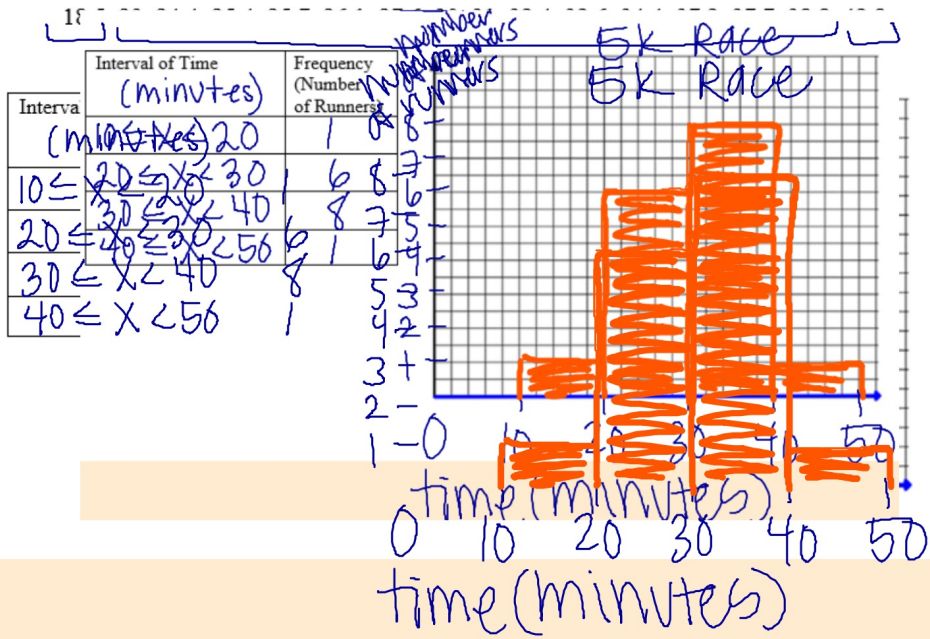
Interval of Time	Frequency (Number of Runners)





# SOLUTION

5. Create a frequency histogram with the 5k times.



**Exercises...**

**Study for Unit 7 Statistics Test!  
(Finish Review Sheet)**

# SOLUTION

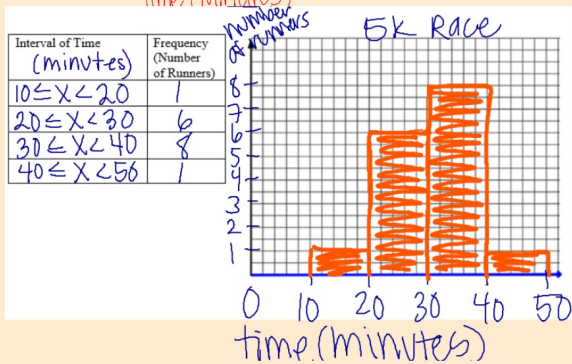
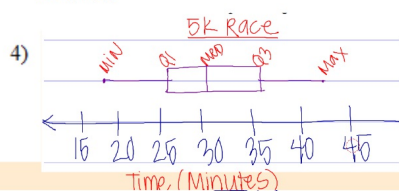
## Answers to Statistics Review

1) 24,800  
52.9%

2) 120 pushups

3) Median = 30.5,  $Q_1 = 25.55$ ,  
 $Q_3 = 35.8$ , IQR = 10.25 and  
 $\sigma = 6.4$

On average, each runner's time is 6.4 minutes away (above or below) the mean time of 30.475 minutes.  
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The runners times are relatively spread out. The data is evenly distributed (looking at box plot... no outliers)



### Answers to Statistics Review

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