

1,2,4,4,5,7,7,8,8,8,8,8,9,10,11,12,12,12, 13,14,14,14,14,16,16,19,20,20,20,20,20,21,23,23,23,24,24

Unit 1: Quartiles and Percentiles

Below is a table with the enrolment numbers for all period 1 classes at Rideau.

Class	Enrolment
ADA1O.-01	20
AV11O.-01	24
CGC1D.-01	11
CGC1PS-01	23
COP1PD-01	4
FSF1P.-01	10
SNC1L.-01	8
SNC1PS-01	20
AMU2O*3O.01	13
CHC2D.-01	21
COP2PD-01	8
ENG2P.-03	12
MAT2L.-01	7
MFM2P.-03	20
MFM2PL-01	8
MPM2DL-01	2
PA2O.-01	23
PPL2OQ-01	24
SNC2PS-01	9
TCJ2O.-01	8
AMU3O*4E.01	1
CHW3M.-01	7
CHW3ML-01	4
ENG3C.-03	14
MCR3U.-01	14
PAF3OQ-01	23
RCR3O-01	12
RCR3O-02	8
TFJ3C.-01	19
ENG4C.-01	20
ENG4C.-01	20
ENG4U.-01	16
MDM4U.-01	12
KHDANS-01	16
KHDANS-02	14
SPECLD-03	5
ESLEO.-01	14

1. Find the quartiles of the data. Explain what they mean.

$Q_1 = 8$     $Q_2 = 13$     $Q_3 = 20$

1-8   8-13   13-20   20-24

↑  
50% of classes are between

1. Ms. Thangaraj's first period class has 14 students in it. What percentile does this class fall into?

19 classes are smaller and 20 are smaller in size  
 $\frac{19}{37}$  are smaller  
51<sup>st</sup> percentile

2. What percentile does SNC1PS fall into?

$\frac{26}{37} = 70\%$  It falls in the 70<sup>th</sup> percentile

3. What size class is in the 30<sup>th</sup> percentile?

→ 70% of classes are smaller

4. What size class is in the 81<sup>st</sup> percentile?

5. What size class is in the 11<sup>th</sup> percentile?

~~1, 2, 4, 4, 5, 7, 7, 8, 8, 8, 8, 9, 10, 11, 12, 12, 12, 13, 14, 14, 14, 14, 16, 16, 19, 20, 20, 20, 20, 20, 20, 21, 23, 23, 23, 24, 24~~

$Q_2 = 13$

~~1, 2, 4, 4, 5, 7, 7, 8, 8, 8, 8, 9, 10, 11, 12, 12, 12, 13, 14, 14, 14, 14, 16, 16, 19, 20, 20, 20, 20, 20, 20, 21, 23, 23, 23, 24, 24~~

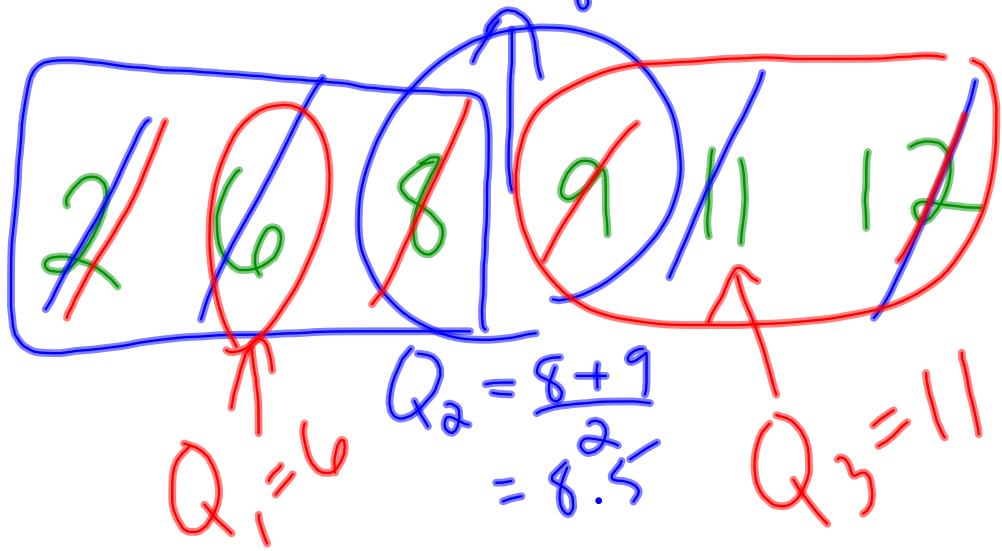
$Q_1 = \frac{8+8}{2} = 8$

1, 4, 5, 7, 8

1, 4, 7, 8

8.5

$Q_3 = \frac{20+20}{2} = 20$



1,2,4,4,5,7,7,8,8,8,8,9,10,11,12,12,12,12,13,14,14,14,14,16,16,19,20,20,20,20,20,21,23,23,23,24,24

### Unit 1: Quartiles and Percentiles

Below is a table with the enrolment numbers for all period 1 classes at Rideau.

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<a href="#">CHC2D.-01</a>	21
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<a href="#">ENG2P.-03</a>	12
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<a href="#">PAF3OQ-01</a>	23
<a href="#">RCR3O-01</a>	12
<a href="#">RCR3O-02</a>	8
<a href="#">TFJ3C.-01</a>	19
<a href="#">ENG4C.-01</a>	20
<a href="#">ENG4C.-01</a>	20
<a href="#">ENG4U.-01</a>	16
<a href="#">MDM4U.-01</a>	12
<a href="#">KHDANS-01</a>	16
<a href="#">KHDANS-02</a>	14
<a href="#">SPEC1D-03</a>	5
<a href="#">ESLEO.-01</a>	14

1. Find the quartiles of the data. Explain what they mean.

1. Ms. Thangaraj's first period class has 14 students in it. What percentile does this class fall into?

2. What percentile does SNC1PS fall into?

3. What size class is in the 30<sup>th</sup> percentile?

What is 30% of this group?

4. What size class is in the 81<sup>st</sup> percentile?

$$= 30\% \text{ of } 37$$

$$= 0.30 \times 37$$

5. What size class is in the 11<sup>th</sup> percentile?

$$= 11$$

∴ the class is of size 9

1,2,4,4,5,7,7,8,8,8,8,9,10,11,12,12,12, 13,14,14,14,14,16,16,19,20,20,20,20,20,21,23,23,23,24,24

Unit 1: Quartiles and Percentiles

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1. Find the quartiles of the data. Explain what they mean.

19 20 22  
 ↑  
 30<sup>th</sup>

1. Ms. Thangaraj's first period class has 14 students in it. What percentile does this class fall into?

2. What percentile does SNC1PS fall into?

3. What size class is in the 30<sup>th</sup> percentile?

4. What size class is in the 81<sup>st</sup> percentile?

81% of 37  
 = 0.81 × 37  
 = 30

11% of 37  
 = 0.11 × 37  
 = 4.07  
 = 4

The class is of size 5

~~167, 178, 204, 208, 216, 233, 236, 238, 238, 240, 242, 245, 251, 262, 277, 289, 291, 297~~

Here are the batting averages of 18 Blue Jays players.

.297	.178	.245	.233	.240	.262
.289	.242	.251	.238	.236	.208
.238	.277	.216	.204	.291	.167

a) Order the data from least to greatest

167	178	204	208	216	233	236	238	238	240	242	245	251	262	277	289	291	297
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a) What are the quartiles of the data set?

~~167, 178, 204, 208, 216, 233, 236, 238, 238, 240, 242, 245, 251, 262, 277, 289, 291, 297~~

b) Frank Thomas's batting average is in the 80<sup>th</sup> percentile for this group. Explain what this percentile means. What was Frank Thomas's batting average for the season?

80% of batters have a lower batting average

80% of 18  
 $= 0.80 \times 18$   
 $= 14$

So 14 batters are lower than him, so he has batting average 0.277

c) Another player scored in the 17<sup>th</sup> percentile for this group. Explain what this percentile means. What his batting average for the season?

17% of batters have a lower batting average

17% of 18  
 $= 0.17 \times 18$   
 $= 3$

d) What percentile does the player whose batting average is .236 fall into?

So 3 batters are lower than him, so he has batting average 0.208

d) 6/18 are lower, so  $6/18 \times 100 = 33\%$ , so he is in the 33rd percentile

e) What percentile does the player whose batting average is .251 fall into?

$12/18 \times 100 = 67\%$  So he falls into the 67th percentile.

Pg 203 #9; pg 205 #14

