

## MEASURES OF SPREAD

# SPREAD

DEF

MEASURES OF SPREAD (OR VARIATION)

A SINGLE NUMBER DESCRIBING HOW FAR THE DATA IS SPREAD OUT.

DEF

RANGE: THE DIFFERENCE (-) BETWEEN THE HIGHEST AND LOWEST VALUES IN A SET.

20, 13, 22, 17, 28, 10

$$\text{RANGE} = 28 - 10 = 18$$

DEF

IQR: INTERQUARTILE RANGE - THE RANGE BETWEEN THE UPPER ( $Q_3$ ) AND LOWER ( $Q_1$ ) QUANTILES. THE RANGE OF MIDDLE 50%

20, 13, 22, 17, 28, 10

PUT IN ORDER: 10, 13, 17, 20, 22, 28

$Q_1$  (LOWER QUANTILE)  
MEDIAN OF LOWER  
HALF

$Q_3$  (UPPER QUANTILE)  
MEDIAN OF UPPER  
HALF

$$Q_1 = 13$$

$$Q_3 = 22$$

$$\text{IQR} = 22 - 13 = 9$$



YOU TRY:

1) 6, 9, 10, 14, 9, 12, 17, 11

PUT IN  
ORDER

6, (9|9), 10, 11, (12|14), 17

$$Q_1 = \frac{9+9}{2} = \frac{18}{2} = \boxed{9}$$

$$Q_3 = \frac{12+14}{2} = \frac{26}{2} = \boxed{13}$$

$$IQR = 13 - 9 = \boxed{4}$$

2) 10, (14), 14, (16), 18, (20), 20

ALREADY IN ORDER

$$Q_1 = 14$$

$$Q_2 = 16$$

(MEDIAN)

$$Q_3 = 20$$

$$IQR = 20 - 14 = \boxed{6}$$

