Name: _____

Mean Absolute Deviation

Find the mean and mean absolute deviation (MAD) for each data set. Show your work.

a. 39, 32, 48, 49

mean: _____ **MAD:** _____

b. 6, 5, 13, 4

mean: _____ **MAD:** _____

c. 103, 118, 149, 103, 134, 122

mean: _____ **MAD:** _____

d. 82, 75, 76, 77, 86, 84

mean: _____ **MAD:** _____

Name: _____

Mean Absolute Deviation

e. 63, 23, 65, 55, 52

mean: _____ **MAD:** _____

f. 13, 15, 12, 10, 20

mean: _____ **MAD:** _____

g. 1, 5, 6, 14, 7, 8, 2, 5

mean: _____ **MAD:** _____

h. 25, 24, 12, 36, 28, 17, 14, 24

mean: _____ **MAD:** _____

ANSWER KEY

Mean Absolute Deviation

Find the mean and mean absolute deviation (MAD) for each data set. Show your work.

a. 39, 32, 48, 49

$\frac{39 + 32 + 48 + 49}{4} = \frac{168}{4} = 42$

$|42 - 39| = 3$
$|42 - 32| = 10$
$|42 - 48| = 6$
$|42 - 49| = 7$

$\frac{3 + 10 + 6 + 7}{4} = \frac{26}{4} = 6.5$

mean: 42 **MAD:** 6.5

b. 6, 5, 13, 4

$\frac{6 + 5 + 13 + 4}{4} = \frac{28}{4} = 7$

$|7 - 6| = 1$
$|7 - 5| = 2$
$|7 - 13| = 6$
$|7 - 4| = 3$

$\frac{1 + 2 + 6 + 3}{4} = \frac{12}{4} = 3$

mean: 7 **MAD:** 3

c. 103, 118, 149, 103, 134, 122

$\frac{103 + 118 + 149 + 103 + 134 + 122}{6} = \frac{729}{6} = 121.5$

$|121.5 - 103| = 18.5$
$|121.5 - 118| = 3.5$
$|121.5 - 149| = 27.5$
$|121.5 - 103| = 18.5$
$|121.5 - 134| = 12.5$
$|121.5 - 122| = 0.5$

$\frac{18.5 + 3.5 + 27.5 + 18.5 + 12.5 + 0.5}{6} = \frac{81}{6} = 13.5$

mean: 121.5 **MAD:** 13.5

d. 82, 75, 76, 77, 86, 84

$\frac{82 + 75 + 76 + 77 + 86 + 84}{6} = \frac{480}{6} = 80$

$|80 - 82| = 2$
$|80 - 75| = 5$
$|80 - 76| = 4$
$|80 - 77| = 3$
$|80 - 86| = 6$
$|80 - 84| = 4$

$\frac{2 + 5 + 4 + 3 + 6 + 4}{6} = \frac{24}{6} = 4$

mean: 80 **MAD:** 4

ANSWER KEY

Mean Absolute Deviation

e. 63, 23, 65, 55, 52

$\frac{63 + 23 + 65 + 55 + 52}{5} = \frac{258}{5} = 51.6$

$|51.6 - 63| = 11.4$
$|51.6 - 23| = 28.6$
$|51.6 - 65| = 13.4$
$|51.6 - 55| = 3.4$
$|51.6 - 52| = 0.4$

$\frac{11.4 + 28.6 + 13.4 + 3.4 + 0.4}{5} = \frac{57.2}{5} = 11.44$

mean: 51.6 **MAD:** 11.44

f. 13, 15, 12, 10, 20

$\frac{13 + 15 + 12 + 10 + 20}{5} = \frac{70}{5} = 14$

$|14 - 13| = 1$
$|14 - 15| = 1$
$|14 - 12| = 2$
$|14 - 10| = 4$
$|14 - 20| = 6$

$\frac{1 + 1 + 2 + 4 + 6}{5} = \frac{14}{5} = 2.8$

mean: 14 **MAD:** 2.8

g. 1, 5, 6, 14, 7, 8, 2, 5

$\frac{1 + 5 + 6 + 14 + 7 + 8 + 2 + 5}{8} = \frac{48}{8} = 6$

$|6 - 1| = 5$
$|6 - 5| = 1$
$|6 - 6| = 0$
$|6 - 14| = 8$
$|6 - 7| = 1$
$|6 - 8| = 2$
$|6 - 2| = 4$
$|6 - 5| = 1$

$\frac{5 + 1 + 0 + 8 + 1 + 2 + 4 + 1}{8} = \frac{22}{8} = 2.75$

mean: 6 **MAD:** 2.75

h. 25, 24, 12, 36, 28, 17, 14, 24

$\frac{25+24+12+36+28+17+14+24}{8} = \frac{180}{8} = 22.5$

$|22.5 - 25| = 2.5$
$|22.5 - 24| = 1.5$
$|22.5 - 12| = 10.5$
$|22.5 - 36| = 13.5$
$|22.5 - 28| = 5.5$
$|22.5 - 17| = 5.5$
$|22.5 - 14| = 8.5$
$|22.5 - 24| = 1.5$

$\frac{2.5 + 1.5 + 10.5 + 13.5 + 5.5 + 5.5 + 8.5 + 1.5}{8} = \frac{49}{8} = 6.125$

mean: 22.5 **MAD:** 6.125

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