

MTH 212 Exam 2 Review (6.4 – 8.1) In Class Review Answers (email me if you see any possible errors)

1. Area = 10 units², Perimeter = $6\sqrt{5}$

2.

a. $5\sqrt{3}$

b. 10

c. $2^3\sqrt{3}$

d. $5^3\sqrt{2}$

3. Check each column that applies

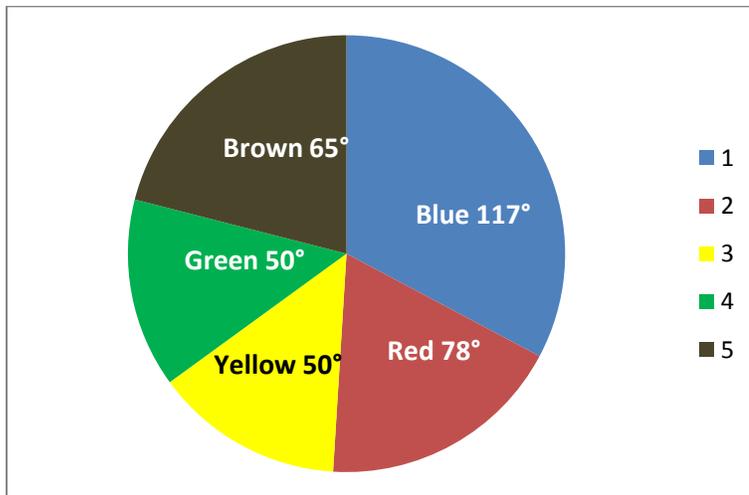
Number	Whole number	Integer	Rational	Irrational	Real
$\sqrt{36}$	✓	✓	✓		✓
$-\frac{4}{2}$		✓	✓		✓
$\sqrt[3]{4}$				✓	✓
$\frac{1}{3}$			✓		✓
π				✓	✓

4.

a. True

b. False; one possible counterexample is $\sqrt{9} + \sqrt{4} = 3 + 2 = 5 \neq \sqrt{13}$

5. 13 feet

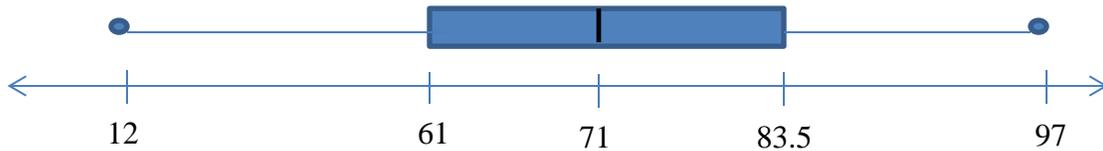


6.

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7.

a. .



b. 22.5

c. Yes, 12 and 25

8.

a. mode

b. mean

c. median

9. The standard deviation is 19.6. To determine if any are “rare” I need to compute the mean and see if any of the points are 2 or more standard deviations above or below the mean. The mean is 59 and there are no “rare” points.

10.

a. Skewed right

b. Skewed right

c. symmetric

11.

a. 30/58

b. $P(C \cup R) = 45/58$ $P(C \cap R) = 10/58$

c. 38/58

d. 25:33

12. 4/16

13.

a. Skewed right

b. Mean = 2.275, mode = 2, median = 2

c. No, a fair die would have all outcomes approximately equally likely. In this case, there were far more 1's and 2's than the other numbers and far fewer 6's.

14. 67

15. 9.67

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16.

- a. 81.8%
- b. 2.5%
- c. 5 lbs
- d. ~238

17.

- a. Negative
- b. ~ 65 inches

18.

- a. {AB,AC,AD,AE,AF,BC,BD,BE,BF,CD,CE,CF,DE,DF,EF}
- b. 5/15
- c. 8/15

19. 3 A students, 6 B students, and 6 C students

20. Since the probability of failure is 0.4 and the random numbers are from 1-10 I needed 4 numbers to represent toys that fail and 6 to represent toys that do not fail. I assigned the numbers 1-4 to represent failure and 5-10 to represent non-failure. Then I circled twenty groups of 5 numbers to represent my 20 trials consisting of 5 toys. Then in each set I counted how many “fails” I had (numbers from 1-4). If there were two or more I counted that as a set of 5 toys with at least two failures. In my trial I got 10 of my 20 choices to have at least 2 “fails” so I estimate the probability that in a random sample of 5 toys there will be at least two that fail to be $10/20 = 0.5$ (answers may vary).