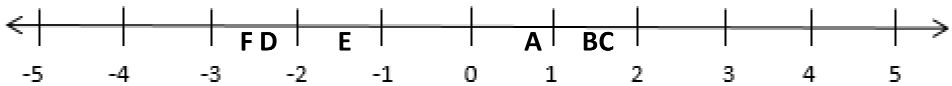
7th ALL Unit 2 Answers

Day 1

1. Rational: 0.8, 3/7, $\sqrt{64}$, 0, 6 2/7, $12.6\overline{7}$, -19, $\sqrt{121}$, $-\sqrt{100}$, 12/5

Irrational: $\sqrt{75}$, $\sqrt{32}$, 2.343443444… , π

2.


3a. whole numbers; might be 0, no fractions 3b. rational numbers; decimals in hundredths 3c. irrational; uses pi 3d. whole numbers; might be 0, no fractions 3e. natural numbers; has to have one person driving 3f. irrational, uses pi 3g. rational numbers; decimals in hundredths

Day 2

1) $\frac{100m}{9.63\ sec} \cdot \frac{60\ sec}{1\ min} \cdot \frac{60\ min}{1\ hr} \cdot \frac{100\ cm}{1\ m} \cdot \frac{1\ inch}{2.54\ cm} \cdot \frac{1\ ft}{12\ in} \cdot \frac{1\ mile}{5280\ feet} \approx 23.2\ mph$ Usain would beat the alligator and hippopotamus

2) set up a set of fractions similar to #1 above; Man O War's speed was approx. 40 mph, beats alligator and hippo
3) 32.2 ft/sec2 4) 25.4 blocks 5) not equivalent 6) equivalent 7) $55 8a) 5/$2 8b) $0.40/1 orange
8c) 2.5 oranges/$1 8d) per orange 8e) per dollar 9) .3077 gallons/$1, $3.25/1 gallon, it is more useful to know price of 1 gallon 10) 60 miles/1 hour, .0167 hours/1 mile, miles per hour most useful 11) 5 pounds/1 bag, .2 bags per pound, more useful to know size of bag, so pounds per bag 12) .6 bags/$1, $1.67/1 bag, price per bag makes more sense
13) 24 ounce jar 14) solution B is sweeter

Day 3

1. bottom row of table: $8.25, $16.50, $24.75, $33 yes, it is proportional 2. Yes proportional
3. Proportional because constant rate of change and at 0 months it costs $0 4. Not proportional because 0 degrees Celsius does not equal 0 degrees Fahrenheit. Bottom row of table: 32, 50, 68, 86 5. Not proportional not 0 ft at 0 min
6. Rebekah is proportional; has a constant rate of change 7. Frank is proportional because constant rate makes straight line, also goes through (0,0) 8. Perimeter is proportional to side length. Area is not proportional to side.
9. Not proportional; no clear pattern to determine price for 30 tickets 10a. A, C, G strongest (equivalent)
10b. B, E weakest (equivalent) 10c. A/C/G are proportional, F/H proportional, B/E proportional because they make equivalent fractions 10d. A/C/G then D then F/H then B/E

Day 4

1a. yes 1b. 6 meters/second 2. Rate is $9/shirt. (0,0) means zero shirts cost $0 and (1,9) means 1 shirt costs $9.
3. Johnson rate is 45 mph, Jorgensen rate is 60 mph. Johnsons got fewer mph. 4. Rate is 10 inches/hour, can be written in other equivalent rates like 5 inches/30 min. 5. $30 6. D 7. Entry for 6 is 18, entry for 7 is 21
7a. yes proportional 7b. y = 3x 7c. unit rate is constant of proportionality, which is multiplied by x
7d. x = 1/3 y 7e. Find the cost for x tickets 7f. Find the number of tickets for $y. 7g. reciprocals
8. Yes proportional, unit rate is $0.50/1 bar, cost = .5*bars, or y = .5x