

Name: _____
Date: Key
Period: _____

Algebra 1 Chapter 0 Study Guide

Find each sum or difference

1. $20 + (-7)$

13

2. $18.4 - (-3.2)$

21.6

Find each product or quotient

3. $11(-8)$

-88

4. $63 \div (-9)$

-7

Replace each with $<$, $>$, or $=$ to make a true statement

5. $\frac{7}{20} \square \frac{2}{5}$

0.35 0.4

6. $\frac{1}{8} \square 0.15$

0.125

7. Order $0.5, -\frac{1}{7}, -0.2, \frac{1}{3}$ from least to greatest

~~-0.14286~~ ~~0.3~~

-0.2, $-\frac{1}{7}$, $\frac{1}{3}$, 0.5

Find each sum or difference. Write your answer in simplest form.

8. $\frac{1}{6} + \left(-\frac{1}{2}\right) \cdot 3$

$$\frac{1}{6} - \frac{3}{6} = \frac{-2}{6} \div 2$$

$$= \frac{-1}{3}$$

9. $-\frac{1}{12} - \left(-\frac{3}{4}\right) \cdot 3$

$$-\frac{1}{12} + \frac{9}{12} = \frac{8}{12} \div 4$$

$$= \frac{2}{3}$$

Find each product or quotient

10. $-1.2(9.3)$

$$-11.16$$

11. $-20.93 \div (-2.3)$

$$9.1$$

flipped over

Name the reciprocal of each number.

12. $-2\frac{3}{7}$

$$-\frac{17}{7} \Rightarrow$$

$$\frac{7}{-17}$$

13. $\frac{8}{1}$

$$\frac{1}{8}$$

Find each product or quotient. Write your answer in simplest form.

14. $\frac{2}{5} \cdot \frac{5}{9} = \frac{10}{45} \div 5$

$$= \frac{2}{9}$$

15. $\frac{1}{3} \div 2\frac{1}{4}$

$$\frac{1}{3} \div \frac{9}{4}$$

$$\frac{1}{3} \cdot \frac{4}{9} = \frac{4}{27}$$

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Per 100

Express each percent as a fraction in simplest form

16. 8%

$$\frac{8}{100} \div 4 = \frac{2}{25}$$

17. 155%

$$\frac{155}{100} \div 5 = \frac{31}{20}$$

Use the percent proportion to find each number.

18. 75% of what number is 58?

$$\frac{58}{x} = \frac{75}{100}$$

$$\frac{75x}{75} = \frac{5800}{75}$$

$$x = 77.\bar{3}$$

19. What number is 95% of 95

$$\frac{x}{95} = \frac{95}{100}$$

$$\frac{100x}{100} = \frac{9025}{100}$$

$$x = 90.25$$

Find the perimeter and area of each figure

20.



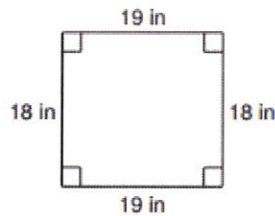
$$P = 11 + 14 + 20$$

$$P = 45 \text{ Km}$$

$$A = \frac{1}{2} b \cdot h$$

$$= \frac{1}{2} \cdot 20 \cdot 7.4 = 74 \text{ Km}^2$$

21.



$$P = 2l + 2w$$

$$= 2 \cdot 19 + 2 \cdot 18 = 38 + 36 = 74 \text{ in}$$

$$A = lw$$

$$= 19 \cdot 18 = 342 \text{ in}^2$$

22. A parallelogram has a base of 20 millimeters and a height of 6 millimeters. Find the area,

$$A = lw \text{ or } A = b \cdot h$$

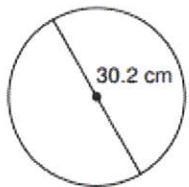
$$= 20 \cdot 6 = 120 \text{ mm}^2$$

The area of the parallelogram is 120 mm^2

$$C = 2\pi r \text{ or } C = d\pi \quad A = \pi r^2$$

Find the circumference and area of each circle. Round to the nearest 10th.

23.



$$r = \frac{30.2}{2}$$

$$r = 15.1$$

$$C = 30.2\pi$$

$$C \approx 94.87609814$$

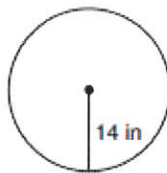
$$C \approx 94.9 \text{ cm}$$

$$A = \pi \cdot 15.1^2$$

$$\approx 716.3145409$$

$$A \approx 716.3 \text{ cm}^2$$

24.



$$C = 2\pi \cdot 14$$

$$\approx 87.9645943$$

$$C = 88.0 \text{ in}$$

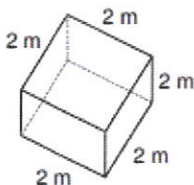
$$A = \pi \cdot 14^2$$

$$A \approx 615.7521401$$

$$A \approx 615.8 \text{ in}^2$$

Find the volume and surface area of each rectangular prism given the measurements below.

25.



$$V = lwh$$

$$SA = 2lw + 2lh + 2wh$$

$$V = 2 \cdot 2 \cdot 2$$

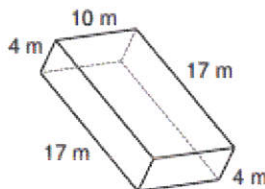
$$V = 8 \text{ m}^3$$

$$SA = 2 \cdot 2 \cdot 2 + 2 \cdot 2 \cdot 2 + 2 \cdot 2 \cdot 2$$

$$= 8 + 8 + 8$$

$$SA = 24 \text{ m}^2$$

26.



$$V = 17 \cdot 10 \cdot 4$$

$$V = 680 \text{ m}^3$$

$$SA = 2 \cdot 17 \cdot 10 + 2 \cdot 17 \cdot 4 + 2 \cdot 10 \cdot 4$$

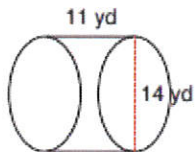
$$= 340 + 136 + 80$$

$$SA = 556 \text{ m}^2$$

Find the volume and surface area of each cylinder given the measurements below.

27.

$$r = \frac{14}{2} \quad r = 7$$



$$V = \pi r^2 \cdot h$$

$$SA = 2\pi rh + 2\pi r^2$$

$$V = \pi \cdot 7^2 \cdot 11$$

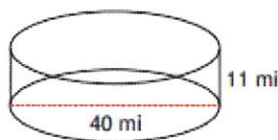
$$V = 1693.31844 \text{ yd}^3$$

$$SA = 2\pi \cdot 7 \cdot 11 + 2\pi \cdot 7^2$$

$$483.8052487 + 307.8760801$$

$$SA = 791.6813488 \text{ yd}^2$$

28.



$$r = \frac{40}{2} = 20$$

$$V = \pi \cdot 20^2 \cdot 11$$

$$V = 13823.00768 \text{ mi}^3$$

$$SA = 2\pi \cdot 20 \cdot 11 + 2 \cdot \pi \cdot 20^2$$

$$SA = 3895.57489 \text{ mi}^2$$

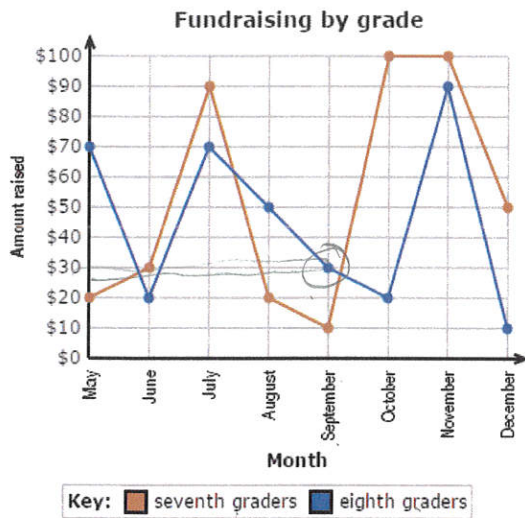
29. Find the mean, median, and mode for the given data set. $\{30, 22, 38, 41, 33, 41, 30, 24\}$

mean: $\frac{30+22+38+41+33+41+30+24}{8} = \frac{259}{8} \approx 32.375$

median: 22, 24, 30, 30, 33, 38, 41, 41
 $\frac{30+33}{2} = \frac{63}{2} = 31.5$

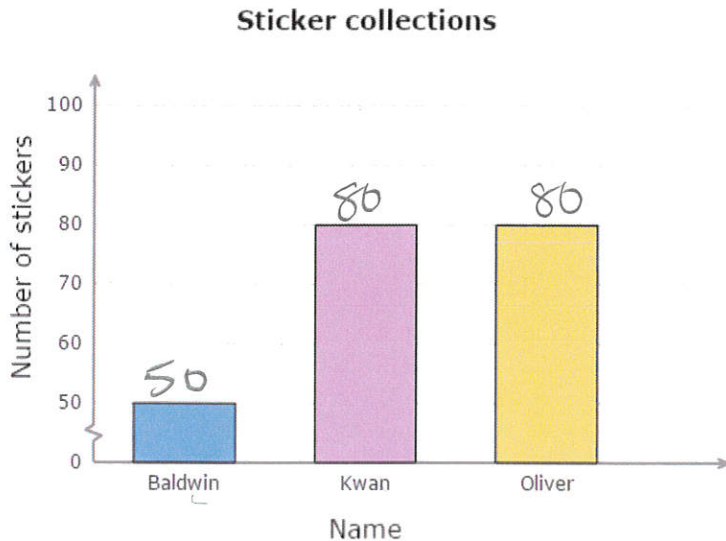
mode: 30 and 41

30. Given the line graph below how much did the 8th grade earn in September?



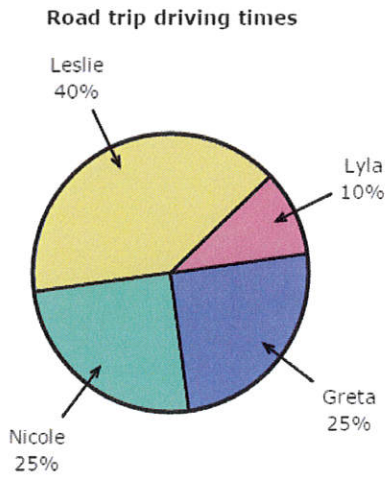
\$30.
 The 8th grade Class earned \$30 in September

31. Given the bar chart below how many stickers to Baldwin, Kwan, and Oliver have in all?



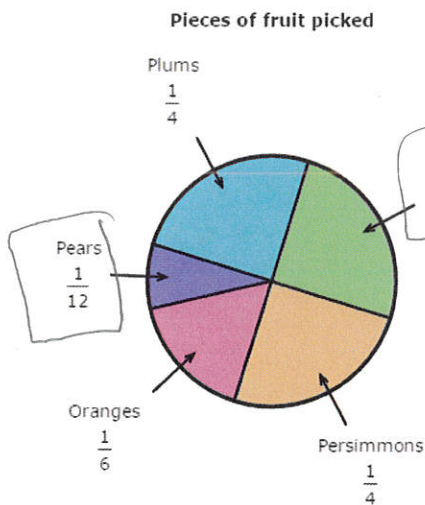
$80+80+50$
 210
 They had 210 stickers in all.

32. Put the Road trip drive times in order from least to greatest.



Lyla, Greta, Nicole, Leslie

34. If a total of 60 people picked fruit how many more people picked Peaches than Pears?



Peaches $\frac{1}{4} \cdot 60 = \frac{60}{4} = 15$

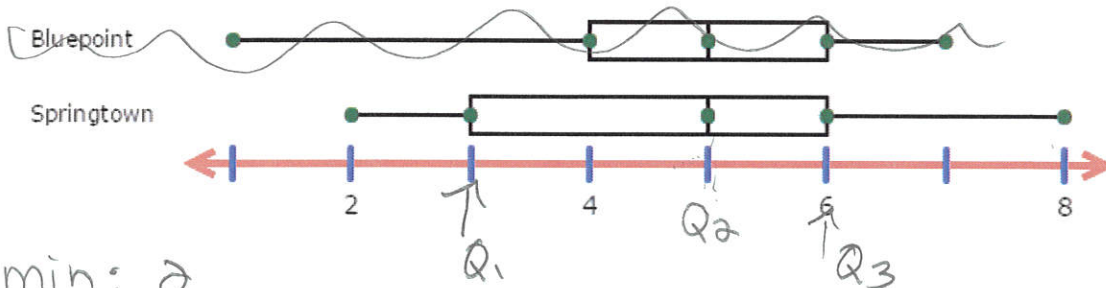
Pears $\frac{1}{12} \cdot 60 = \frac{60}{12} = 5$

$15 - 5 = 10$

Ten more people picked peaches than Pears.

35. What is the minimum, mean, maximum, and interquartile range for Springtown

February rainfall (inches)



min: 2

mean: 5

max: 8

IQR: $Q_3 - Q_1 = 6 - 3 = 3$