Name _____

Rising 8th Summer Work

SET I

1. What must be added to each in order to reach zero?
   $3, -3, -16, -$

2. Divide. $-48 \div -6; -14 \div 7; 0 \div -12; 18 \div -6$

3. Compute and compare. (Use $<, =, >$.)
   $7 + 9 \underline{\ ?\ } 9 + 7; -3 + 6 \underline{\ ?\ } -6 + 9;$

4. Find the missing quotient. $16 \div (-2) \div 2;$
   $-125 \div 25 \div (-1)$

6. Multiply or divide. $2^2 \cdot 3^2, 10^2 \div 5^2, 5^2(-2)^2,$
   $\frac{10^4}{2^2}, -3^3(-3)^2$

8. Write the numeral: six billion, twelve million, eighteen; five million, four hundred thousand; ninety thousand

10. Round to the nearest thousand: $24,123; 986; 7645$
    Round to the nearest thousandth: $0.9665; 1.0743$

11. Round to the nearest whole number:
    $4\frac{3}{4}, 1\frac{1}{5}, 6\frac{7}{8},$

12. Round to the nearest whole number: $7.5, 8.25,$
    $6.19, 5.763,$

13. Solve. $5x = 35, a \cdot 8 = 88, -7c = 42,$

14. When $n = 5.5$ what number is named by $-4n$?

Answer

1 a
  b
  c

2 a
  b
  c
  d

3 a
  b

4 a
  b

6 a
  b
  c
  d

8

10 a
   b

11 a
   b
   c

12 a
   b
   c
   d

13 a
   b
   c

14

7. What integer is suggested by a temperature of 15 degrees below zero? 6 degrees above zero?

8. Name the opposite integer: 5, 8, 11, 14,

9. Evaluate $a + b$ when $a = 2$ and b is: 0, 3,

3. Name an algebraic expression for: the quotient when the sum of three and a number is divided by two.

4. Name an algebraic expression for: the absolute value of negative three minus a number cubed.

5. On a horizontal number line, what integer is: 2 units left of zero, 4 units right of zero, 5 units left of zero?

6. On a horizontal number line, how many units to the right or left of zero is each integer: 5, −3, 8

10. On a horizontal number line, what integer is 7 units to the right of −7? 1 unit to the right of −2?

11. Write a number sentence suggested by a number line move from −6 to zero. from −6 to −9

12. To show each of the following, show where you would start on a number line and the number of units left or right you would move: $2 + 4$; $4 − 5$; $−3 − 2$

Answer

3
4
5a
  b
  c
6 a
  b
  c

7
8
9
10
11
12

SET 3.

1. When $\frac{2}{3}$ of a number is 12, what is the number?

2. If $\frac{5}{8}$ of a number is 15, v

3. Find $\frac{1}{5}$ of: 60, 30, 40,
   Find $\frac{1}{8}$ of: 72, 40, 56,

4. Complete: $-4 - (-2) = -4 + \underline{\ ?\ }$;

5. Find the missing factor. $6(\underline{\ ?\ }) = -36$; $-4(\underline{\ ?\ }) = 16$;

6. Find $\frac{1}{9}$ of : 72, 81,

7. Find the product. $-2 \times (-8)$; $3 \times (-10)$; $4 \times (-8)$; -11×9; -1×1; -6×12; $7 \times (-2)$; 0×99

9. What number makes the sentence true? Name the property used. $(15 \times 3) + (15 \times 7) = 15(3 + y)$

10. Compute and compare. (Use $<, =, >$.) $0 \times 1 \underline{\ ?\ } -6$; $-1 \times (-7) \underline{\ ?\ } -1 \times 7$; $-1 \times (-3) \underline{\ ?\ } 1 \times 3$

Answer

1
2
3
4
5

6
7
9
10a
  b
  c

SET 4

1. Compare. (Use <, =, >.)
   $-9 \underline{\ ?\ } -10; -5 \underline{\ ?\ } -1$

2. Order from greatest to least: 3, −1, 0, 4; −5, −6, 0, −1; −6, 10, −7, 3; 2, −2, 4, 0

3. Subtract −10 from: , 15, −15, −7, 7

4. If $n = 9$, what number is named by: $(24 − 6) \div n$? $3(n + 12)$?

5. Compute and compare. (Use <, =, >.) $9 \times 8 \underline{\ ?\ } 70$; $4 \times 12 \underline{\ ?\ } 50$

6. How many times greater than 6 is 72?

1a
b

2

3a
b
c

4a
b

5a
b

6

SET 5

1. Write an equation for each.
   one more than twice three is seven; five times seven is thirty-five

2. Evaluate the expression $7a$ when $a = 11$. Evaluate the expression $5b$ when $b = 8$.

3. Solve. $\frac{k}{3} = -3, 7 = x \div 42, \frac{n}{-6} = -36$,

4. Divide by −3: 12, −9, −3

5. Write an inequality for each. double a value is less than or equal to 12; the sum of y and 7 is less than or equal to 11

7. Which is least: $\frac{1}{2}, \frac{50}{100}, \frac{5}{10}$, or $\frac{2}{6}$?

8. Simplify each expression. $5a + 11 + 3a$; $6b + 2ab - 2(a + b)$;

9. Write each as an expression.
   the sum of 7 and 8.03, a number decreased by 19.9,

10. Tell the correct relation. (Use <, =, >.) $6 \underline{\ ?\ } -7$; $-3 \underline{\ ?\ } -2$;

11. Tell which fraction is less: $\frac{2}{3}$ or $\frac{3}{4}$; $\frac{2}{5}$ or $\frac{1}{6}$

12. On a horizontal number line there are two fractions: $\frac{5}{8}$ and $\frac{6}{8}$. Name 3 fractions between these two.

13. 90 is $\frac{3}{4}$ of what number

14. $\frac{1}{3} = \frac{?}{12} = \frac{?}{18} = \frac{?}{24} = \frac{?}{30} = \frac{?}{21} = \frac{?}{27} = \frac{?}{15}$

Answers
1a
 b
2 a
 b
3 a
 b
 c
4
5
7

8a
 b
9 a
 b
10 a   b
11
12
13
14

SET 6

1. Solve. $8 + x = 19; a + 16 + 1 = 20; 7 + r + 5 = -11;$

3. Express the following as decimals:
$\frac{1}{2}, \frac{1}{4}, \frac{3}{4}, \frac{3}{10},$

4. Rename each fraction or mixed number as an equivalent decimal. $\frac{4}{5}; \frac{3}{20}; \frac{1}{8};$

5. Add. $25.9 + 15.6; 21.09 + 17.9; -15.29 + 11.01;$

6. Find the difference. $1 - (-9) = n, -14 - (-2) = n,$ $10 - (-6) = n,$

Answer

1 a
  b
  c
3 a
  b
  c
  d
4 a
  b
  c

4. Write in scientific notation: 728,000;
   0.033;   -42,500,000;   −0.0011

4 a
  b
  c
  d
5 a
  b
6 a
  b
  c
  d

7. Add or subtract. $14 + (-8) = n, -14 - 8 = n,$ $-14 - (-8) = n,$

10. Subtract. $3.05 - 0.95; 22.4 - (-8.5); -7.1 - (-1.1)$

5 a
  b
  c
6 a
  b
  c
7 a
  b
  c
8 a
  b

5. Rename each as a mixed number. $\frac{65}{9}, \frac{76}{9},$

6. Change to improper fractions. $3\frac{3}{7}, 4\frac{2}{7}, 2\frac{4}{7}, 5\frac{5}{7},$

7. Mt. Whitney is 14,484 ft high. If you climbed to a point 250 ft below the top, how high would you have climbed?

8. Jim's lunches costs $4.95. If he wants to leave a 15% tip, how much money should he leave?

7

8

SET 8

1. Compare. (Use $<$, $=$, $>$.) $0.2 \underline{\ ?\ } 0.3$; $0.3 \underline{\ ?\ } 0.03$;

2. Order from least to greatest: 0.1, 0.03, 0.001, 0.031

3. Change to a mixed number: $\frac{15}{7}, \frac{29}{7},$

4. Express as fractions in simplest form
   0.75,   , 0.375,

5. Simplify: $\frac{6}{24}, \frac{18}{45}, \frac{24}{60},$

6. Order from greatest to least:
   0.009, 0.9, 0.912, 0.091, 0.91

7. A room is 25 ft long. Express the length in yards and feet.

8. What percent of 1 yd^2 is 1 ft^2?

9. If 6.5 kg of rice is put into 100 boxes, how much rice will there be in each box?

Answers

1 a
   b
2
3 a
   b
4 a
   b
5

6
7
8
9

SET 9

1. Write in standard form
   $(3^{-1})(5^{-3})$; $\frac{7^{-2}}{7^{-1}}$

3. Multiply 3×8: 3×80; 3×800:

4. Multiply 5×9; 3×9.01; 5×90.1;

5. Write the answer in scientific notation. $3(4 \times 10^3)$; $2(5.5 \times 10^1)$;

6. Multiply by 10^2:   , 0.05, 0.24,

7. Find the GCF of 24 and: 4,

8. Tell the GCF for each pair: 12 and 18; 36 and 24; 20 and 32;

9. The difference between two numbers is 6. If the greater number is 15, what is the other number?

12. Dividing a number by 9 is equivalent to multiplying it by what number?

13. There are 31 classes with 24 students in each class. Estimate to the nearest hundred the total number of students.

14. Dividing a number by $2\frac{1}{2}$ is the same as multiplying it by what number?

Answers

1 a
   b
   c
3 a
   b
   c
4 a
   b
   c
5 a
   b

6 a
   b
7
8 a
   b
   c
9
12
13
14

SET 10

2. Multiply. $\frac{2}{3} \times 6$; $\frac{4}{5} \times 5$; $\frac{3}{6} \times 12$;

3. Find the sum. $\frac{-2}{7} + \frac{4}{7}$; $\frac{15}{30} + \left(\frac{-7}{15}\right)$;

4. Find the difference. $\frac{1}{2} - \frac{3}{7}$; $\frac{3}{10} - \left(\frac{-1}{5}\right)$;
   $\frac{-2}{5} - \left(\frac{-1}{5}\right)$

5. Change to mixed numbers: $\frac{24}{7}$, $\frac{30}{8}$,

6. Tell which are prime numbers: 7, 11, 14, 18, 19
   23, 27,

7. Name the next five composite numbers: 4, . . .

8. What fraction subtracted from 2 equals $\frac{1}{3}$?

9. What fraction represents $\frac{1}{5}$ more than the original whole? What fraction represents $\frac{1}{3}$ less than the original whole?

10. How much greater than 1 is $\frac{3}{4} + \frac{7}{8}$?

11. Multiply by 6: $\frac{1}{3}, \frac{1}{6}, \frac{1}{12}$

13. What is 7 more than 3 × 30? 9 more than 88 ÷ 8?

Ans

2a
b
c
3a
b
4a
b
c

5a
b
6
7
8
9

10
11a
b
c
13

SET 11

1. Dividing a number by 2.5 is the same as multiplying it by what number?

2. Which is less, the sum of 0.5 and 1.2 or the product of 0.5 and 1.2?

3. Multiply 8 by. $\frac{3}{8}, \frac{5}{8}$

4. Tell whether the fraction is closer to -1, $-\frac{1}{2}$, or 0.
   $-\frac{65}{70}, \frac{3}{18}, -\frac{7}{15}$

5. Replace the x with a number so that the fraction is a little less than $\frac{1}{2}$. $\frac{x}{12}$; $\frac{36}{x}$; $\frac{x}{25}$;

6. Which is the greatest: $\frac{9}{10}, \frac{9}{9}, \frac{9}{100}, \frac{90}{100}$?

7. Which is the least: $\frac{4}{8}, \frac{50}{100}, \frac{20}{50}$?

8. If 30 items cost $4563, how much is 1 item? $1521 or $152.10 or $15.21

9. What are the prime factors of 24?

10. The difference between two numbers is 10. If the lesser number is -10, what is the greater number?

Ans

1
2
3a
b
4a
b
c
5a
b
c

6
7
8
9
10

SET 12

1. Evaluate the expressions. Use order of operations.
   $(1 \times 8) + (6 \div 3)$: $12 - (14 \div 2) - 4$; $9 + (6 \times 6)$;

2. Evaluate when $a = -4$ and $b = 6$. $3.(a + b)$;
   $2(a \times b)$

3. Solve: $\frac{2}{7} = \frac{4}{n}$; $\frac{3}{5} = \frac{n}{20}$; $\frac{5}{9} = \frac{n}{45}$

4. Solve: $\frac{2}{3} = \frac{x}{9} = \frac{x}{27} = \frac{x}{15} = \frac{x}{6} = \frac{x}{21} = \frac{x}{12}$

5. A concert attracted 450 adults. If there were 100 more men than women, how many men were there?

6. A school team won 15 out of 20 games. Express this as a ratio.

7. What is the least number represented by four digits that are all alike and even?

8. Simplify. $(0.04)^2 \cdot 5$; $(2 \cdot 3.5) + (1.6 \div 2)$

Ans.

1a
 b
 c
2a
 b
→

3a
 b
 c
4
5

6
7
8

SET 13

1. Which of these ratios are equivalent? $\frac{9}{18}$ and $\frac{1}{2}$; $\frac{8}{0.8}$ and $\frac{4.8}{0.6}$; $\frac{9}{27} = \frac{18}{45}$;

2. Tell the ratio in simplest form: 3 pt to 1 gal; 18 in. to 1 yd; 3 days to 1 wk; 50 min to 5 sec

3. Write as percents: $\frac{5}{50}$, $\frac{16}{50}$, $\frac{75}{100}$,

4. Give two ratios equivalent to: $\frac{2}{7}$, $\frac{3}{8}$,

5. Tell if the expression is equal. $\frac{3}{8} = \frac{24}{64}$; $\frac{1}{2} = \frac{1}{4}$; $\frac{1}{5} = \frac{4}{20}$;

6. Name each decimal as a percent. 0.6, 0.9, 0.52, 0.76,

7. Solve for x. Find the original number. 50% of x is 80, 15% of x is 100,

8. What is a prime number that is greater than 10 and less than 20? What is an even prime number that is greater than 1 and less than 10?

9. What number is $\frac{7}{8}$ of 24?

10. Solve each proportion:
    $\frac{60}{100} = \frac{n}{20}$; $\frac{12}{30} = \frac{n}{100}$

11. Find the missing term. $\frac{9}{10} = \frac{81}{n}$; $\frac{7}{3} = \frac{28}{n}$;

12. If 10% of the amount sold is $50, what is the amount of sales? If 20% is $40 what is the amount sold?

13. Find 150% of $\qquad$, 18, 24,

14. Express as a decimals: 110%, 130%,

Ans

1a
 b
 c
2a
 b
 c
 d
3a
 b
 c
4a
 b

5a
 b
 c
6a
 b
 c
 d
7a
 b

8
9
10a
  b
11a
  b
12a
  b
13a
  b
14a
  b

SET 14

1. Make each ratio equivalent to 2:5.
   8: _?_, 10: _?_, 12: _?_, 14: _?_,

2. Make each set of ratios equivalent: $3:4 = 6:$ _?_ ;
   $2:3 = 4:$ _?_ ; $5:6 =$ _?_ $:30;$

3. Tell the value of n: $\frac{n}{9} = \frac{2}{3}$; $\frac{4}{5} = \frac{n}{45}$; $\frac{12}{5} = \frac{n}{25}$;

6. Jim receives 60% of the profits and Luc receives 40%. How much more does Jim receive? Express Jim and Luc's profits as a ratio.

7. Bea gave correct answers to 82 out of 100 questions. What percent of her answers were correct?

8. A salt solution contains 2 g of salt to every 3 g of water. What is the ratio of water to salt?

9. Select the better buy: 5 oz for 39¢ or 1 lb for $1.20; 2 L for 79¢ or 3 L for $1.19; 3 p for $4 or 5 p for $5

10. Find the equivalent ratios: $\frac{3}{4} = \frac{6}{c} = \frac{12}{c} = \frac{15}{c} = \frac{21}{c} = \frac{30}{c}$

11. Write each percent as a decimal. 107%, 226%,

12. Write each fraction as a percent.
    $\frac{3}{2}, \frac{199}{100}, \frac{25}{5}, \frac{276}{100},$,

13. Write each decimal as a percent. 0.8, 0.67, 5.55

Ans
1a
b
c
d
2a
b
c
3a
b
c

6
7
8
9
10
11a
b

12a
b
c
13a
b
c

SET 15

1. What percent of 20 is: 10, 15, 18,

2. Emil saved $15 out of $20. What percent of his money did he save?

3. What percent of 300 is 30? What percent of 55 is 5?

4. 20 is what percent of 80? 5 is what percent of 40?

5. Calculate what the total cost is with a 15% tip.
   $20, $45,

6. Solve. 90 is what percent of 30? 75 is what percent of 200?

8. Rose won 3 out of 4 games. What percent of the games did she win?

9. 300 is 150% of what number? What percent of 50 is 75°

10. What percent of 10 is: 5, 2, 3,

Ans
1a
b
c
2
3a
b
4a
b
5a
b

6a
b
8
9a
b
10a
b

SET 16

1. Find the commission. 10% commission on $250; 15% commission on $350; 9%
2. Find each percentage. 10% of 50; 25% of 50;
3. A discount of 5% brings a bill down to $19. Find the amount of the original bill.
4. Find 25% of: 32,
5. Find the mode for this data: 12, 8, 7, 4, 4, 4, 3, 3, 2, 2

6. Which number is divisible by 2 and 5: 8, 15, or 30?
7. Irene's watch gains 26.6 seconds in one week. About how many seconds does her watch gain in a day?
8. To travel 15 miles in 20 minutes, how many miles per hour must you be going?
9. Which number is divisible by 4 and 6: 32, 44, or 60?
10. If a leaky faucet loses 9 pt of water in 24 hours, how much water is lost in a week? in a 30-day month?

Ans

1a
b
2a
b
3
4
5

6
7
8
9
10

SET 17

1. Find the percent of decrease. from $25 to $20; from $65 to $50;
2. Find the discount rate. a $30 book on sale for $20; a $25,000 automobile on sale for $17,500
3. Express as percents: 6, 6.5, 0.65, 0.065,
4. Over 5 weeks the recorded rainfall was: 1 in., 2 in., $2\frac{1}{4}$ in., 3 in., $1\frac{1}{2}$ in., $2\frac{1}{2}$ in. What is the range?
5. Using the weekly rainfall data above, what is the mode?
6. Using the same data, what is the average rainfall?
7. Using the same data, what is the median rainfall?

8. Edna wants a radio that costs $90. If she has $75, how much more money does she need?
9. The following are spelling scores: 80, 89, 81, 80, 70. What is the mean? What is the median?
10. Of the scores above, which is the mode?
11. What is the range for this set of data? 90, 89, 89, 80, 70
12. Solve each proportion: $\frac{7}{42} = \frac{1}{n}$; $\frac{60}{n} = \frac{6}{5}$;
13. Find the number: $4 = 12\frac{1}{2}\%$ of x; ; $75 = 20\%$ of x
14. Multiply by 1000: 23, 2.3, 0.23,

Ans

1a
b
2a
b
3a
b
c
d
4
5
6
7

8
9a
b
10
11
12a
b
13a
b
14a
b
c

SET 18

1. Find 40% of: $10, $5, $50,   ),

2. The following are math scores: 90, 81, 81, 80, 75. What is the mean? What is the median?

3. Of the scores above, which is the mode?

4. What is the range for the same set of data? 90, 81, 81, 80, 75.

6. Identify the complementary or supplementary angle pairs. 65°, 25°; 110°, 70°; 35°, 55°; 95°, 85°

7. Name the measure of the supplement of each angle: 40°, 100°, 35°.

8. What fractional part of an hour is: 20 min; 10 min; 5 min;

9. 30% of Jon's day is spent in bed. How long is that?

10. To travel 15 miles in 20 minutes, how many miles per hour must you be going?

11. A tax collector is paid $60 commission for collecting $1500. Find the rate of commission.

14. Express in scientific notation: 13,000; 2700; 450,000;

Ans

1a
b
c
2a
b
3
4
6

7a
b
c
8a
b
c
9

10
11
14a
b
c

SET 19

1. Find the number: 80% of $n = 100$; 25% of $n = 2000$;

2. To the nearest penny find 5% of: 60¢, 80¢.

3. Find: 15% of 30; 75% of 150;.

4. What is: 80% of 200: 75% of 48:

5. Name the kind of triangle in which all angles are less than 90°.

6. Name the kind of triangle that has three congruent sides.

7. Right triangles have two acute angles. What kind of angle is the third angle?

8. Into what two shapes does a diagonal divide a rectangle?

10. Multiply by 3: $2\frac{2}{3}, 7, 7\frac{1}{3},$

Ans

1a
b
2a
b
3a
b
4a
b
5
6

7
8
10a
b
c

SET 20

1. Find the number: 50% of $n = 500$; 20% of $n = 1000$;

2. To the nearest dollar find 15% of: $50, $90,

4. Take 10^3 from: 2000,   64,000, 10,000

7. What percent of 360° is:
   160°, 200°, 225°,

8. What percent of 360° is:
   155°, 200°, 280°,

9. Find the circumference of a circle when the
   diameter is: 14 cm, 2.1 m, 2

Ans

1 a
  b
2 a
  b
4 a
  b
  c

7 a
  b
  c
8 a
  b
  c
9 a
  b