This is the summer math packet for students entering 6th grade. The summer packet will be counted as one test grade. This packet is due back by Friday of the first week of school. Your child needs to show their work for each problem. No credit will be given if students do not show their work. There is an answer key so you can check their work.

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6th Grade Packet 1

Multiple Choice
Identify the choice that best completes the statement or answers the question.

Order the numbers from least to greatest.

1. 4,220; 2,009; 4,718; 2,976
   a. 4,718; 4,220; 2,976; 2,009
   b. 2,009; 2,976; 4,220; 4,718
   c. 4,220; 2,976; 4,718; 2,009
   d. 2,009; 4,220; 2,976; 4,718

Order the set of numbers on a number line.

2. 0.3, 0.6, 1.5, 1.8, 1.02
   a. 
   b. 
   c. 0.3, 0.6, 1.5, 1.8, 1.02
   d. 1.02, 0.3, 0.6, 1.8, 1.5

3. 0.63, 0.66, 0.69, 0.6
   a. 0.6, 0.63, 0.66, 0.69
   b. 0.6, 0.66, 0.63, 0.69
   c. 0.6, 0.63, 0.69, 0.66
   d. 0.6, 0.63, 0.69, 0.66

4. Manny has $75.59 in his savings account. He takes out $12.15. How much money does he have left in the account?
   a. $63.45
   b. $63.44
   c. $85.72
   d. $87.74

5. Ponzi saves dimes and quarters. She has 12 coins adding up to $1.80. How many dimes does she have?
   a. 20 dimes
   b. 8 dimes
   c. 4 dimes
   d. 16 dimes

6. What is the value of 2 rolls of quarters if there are 40 quarters in each roll?
   a. $4
   b. $10
   c. $20
   d. $40

Find the quotient.

7. 304 ÷ 20
   a. 324
   b. 15.2
   c. 32.5
   d. 16.7

Find the quotient. Identify the quotient as a terminating or repeating decimal.
8. \( 28 \div 36 \)
   a. 1.8; terminating  
   b. 0.8; terminating  
   c. 0.7; repeating  
   d. 1.7; repeating

9. Find \( 32.46 \div 2.6 \). Round your answer to the nearest hundredth.
   a. 0.95  
   b. 0.08  
   c. 16.23  
   d. 12.48

10. The table shows swimmers’ times in a race. Which student swam the race the fastest?

<table>
<thead>
<tr>
<th>Student</th>
<th>Time (seconds)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chris</td>
<td>33.4</td>
</tr>
<tr>
<td>Pedro</td>
<td>33.5</td>
</tr>
<tr>
<td>Michael</td>
<td>32.6</td>
</tr>
<tr>
<td>John</td>
<td>33.96</td>
</tr>
</tbody>
</table>

   a. Chris  
   b. John  
   c. Pedro  
   d. Michael

11. Andre has $9. He wants to buy slices of pizza for himself, his aunt, father, and cousin. Everyone will get the same size slice. What is the biggest size Andre can afford?

<table>
<thead>
<tr>
<th>Slices of Pizza (tax included)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size</td>
</tr>
<tr>
<td>Small</td>
</tr>
<tr>
<td>Medium</td>
</tr>
<tr>
<td>Large</td>
</tr>
<tr>
<td>Extra Large</td>
</tr>
</tbody>
</table>

   a. extra large  
   b. medium  
   c. small  
   d. large

12. Four students each order the following for lunch: chicken nuggets for $2.89, french fries for $1.19 and juice for $1.09.
   a. How much does each student’s lunch cost?
   b. Find the total cost of lunch.

   a. $5.16; $20.64  
   b. $5.07; $20.28  
   c. $5.17; $20.68  
   d. $5.27; $21.08

13. Find the missing term.

   \[ 20, 10, 5 \]
   a. 60  
   b. 40  
   c. 80  
   d. 100
14. Jeremy has 192 marbles. He gives half to Marsha. Then he gives half of what he has left to Sam. He shares in the same way with two more friends. Write the terms that shows the number of marbles Jeremy has.
   a. 192, 95, 48, 24, 12  
   b. 192, 96, 48, 24, 12  
   c. 192, 96, 22, 24, 11  
   d. 192, 96, 46, 22, 12

Write an algebraic expression for the word phrase.

15. $z$ divided by 4
   a. $\frac{z}{4}$  
   b. $4z$  
   c. $z + 4$  
   d. $z - 4$

Solve the equation using mental math.

16. $w \div 4 = 4$
   a. 16  
   b. 8  
   c. 18  
   d. 20

Solve the equation.

17. $x + 2.8 = 8.3$
   a. 11.1  
   b. 5.5  
   c. 10.1  
   d. 6.5

18. $4y = 40$
   a. 44  
   b. 36  
   c. 5  
   d. 10

19. $4 = w - 10$
   a. 15  
   b. 14  
   c. 6  
   d. 40

20. $5.4 = 0.9x$
   a. 6.3  
   b. 6  
   c. 7.3  
   d. 12

   a. $7 \times 10^3 + 8 \times 10^2 + 6 \times 10^1$  
   b. $7 \times 10^3 + 6 \times 10^1 + 5 \times 1$  
   c. $7 \times 10^3 + 6 \times 10^2 + 8 \times 10^1 + 5 \times 1$  
   d. $7 \times 10^3 + 8 \times 10^2 + 6 \times 10^1 + 5 \times 1$

22. Use the Distributive Property to simplify the expression $5 \times 1.9$.
   a. 7.9  
   b. 9.5  
   c. 6.9  
   d. 19

23. In 2003, the average attendance per game for the Philadelphia Phillies was about $(1 \times 10^4) + (9 \times 10^3) + (9 \times 10^2)$. What is this number in standard form?
   a. 199,000  
   b. 19,900  
   c. 199  
   d. 1,990
6th Grade Packet 2

Multiple Choice
Identify the choice that best completes the statement or answers the question.

List all the factors of the number.

1. 40
   a. 1, 2, 3, 5, 10, 15, 50
   b. 1, 2, 5, 10, 25, 50
   c. 1, 2, 4, 5, 8, 10, 20, 40
   d. 2, 3, 4, 10, 20, 30, 40

2. Which number is composite?
   53, 81, 41, 47, 31
   a. 41
   b. 81
   c. 47
   d. 31

3. List the factors to find the GCF of 27 and 45.
   a. 18
   b. 135
   c. 27
   d. 9

Find the GCF of the numbers.

4. 140, 180
   a. 20
   b. 90
   c. 30
   d. 10

5. 30, 70
   a. 100
   b. 10
   c. 210
   d. 20

6. Alejandro and Jean are distributing erasers and pencils to the art class. There are 35 erasers and 42 pencils. Each student receives the same number of pencils and the same number of erasers, and no supplies are left over. What is the greatest number of students in the class?
   a. 7 students
   b. 77 students
   c. 14 students
   d. 210 students

Write the fraction in simplest form.

7. \( \frac{148}{264} \)
   a. \( \frac{36}{64} \)
   b. \( \frac{37}{66} \)
   c. \( \frac{37}{64} \)
   d. \( \frac{36}{66} \)

Write the improper fraction as a mixed number in simplest form.

8. \( \frac{41}{3} \)
   a. \( \frac{142}{3} \)
   b. \( \frac{122}{3} \)
   c. 13
   d. \( \frac{122}{3} \)
9. A video game has three villains who appear on screen at different intervals. One villain appears every 5 seconds, a second villain appears every 10 seconds, and a third villain appears every 12 seconds. How much time passes between occasions when all three villains appear at the same time?
   a. 600 seconds  
   b. 180 seconds  
   c. 60 seconds  
   d. 120 seconds

Estimate the sum or difference.

10. \(7 \frac{1}{3} + 2 \frac{1}{18}\)
   a. 5  
   b. 7  
   c. 2  
   d. 9

11. \(12 \frac{1}{8} - \frac{5}{6}\)
   a. 13  
   b. 11  
   c. 12  
   d. 10

Find the sum.

12. \(6 \frac{1}{4} + 7 \frac{2}{3}\)
   a. \(13 \frac{3}{12}\)  
   b. \(13 \frac{3}{7}\)  
   c. \(14 \frac{1}{7}\)  
   d. \(13 \frac{11}{12}\)

13. \(2 \frac{1}{10} + 4 \frac{3}{5}\)
   a. \(\frac{10}{67}\)  
   b. \(\frac{12}{13}\)  
   c. \(\frac{7}{10}\)  
   d. \(\frac{13}{5}\)

14. \(3 \frac{2}{7} + 2 \frac{3}{14} + 4 \frac{3}{7}\)
   a. \(\frac{9}{13}\)  
   b. \(\frac{10}{14}\)  
   c. \(\frac{9}{28}\)  
   d. \(\frac{8}{21}\)

15. Gerri spends \(\frac{5}{24}\) of her money on pencils and \(\frac{3}{24}\) on paper. What fraction of her money does she spend? Give the answer in simplest form.
   a. \(\frac{1}{3}\)  
   b. \(\frac{4}{3}\)  
   c. \(\frac{3}{8}\)  
   d. \(\frac{8}{23}\)

Find the difference.

16. \(\frac{3}{8} - \frac{1}{4}\)
   a. \(\frac{1}{2}\)  
   b. \(\frac{1}{8}\)  
   c. \(\frac{9}{8}\)  
   d. \(\frac{3}{4}\)

17. \(\frac{17}{18} - \frac{11}{18}\)
18. \(9 \frac{5}{12} - 4 \frac{2}{3}\)
   a. 4 \(\frac{1}{12}\)  
   b. 5 \(\frac{1}{3}\)  
   c. 5 \(\frac{1}{4}\)  
   d. 4 \(\frac{3}{4}\)

19. \(8 - 2 \frac{1}{3}\)
   a. \(\frac{5}{3}\)  
   b. \(\frac{10}{3}\)  
   c. 3  
   d. \(8 \frac{1}{3}\)

20. The table shows the distances a runner covers in one week. How much farther does she run on Thursday than on Friday?

<table>
<thead>
<tr>
<th></th>
<th>Mon</th>
<th>Tues</th>
<th>Wed</th>
<th>Thurs</th>
<th>Fri</th>
</tr>
</thead>
<tbody>
<tr>
<td>Distance (miles)</td>
<td>(\frac{7}{8})</td>
<td>(\frac{5}{8})</td>
<td>(\frac{3}{8})</td>
<td>(\frac{5}{9})</td>
<td>(\frac{3}{9})</td>
</tr>
</tbody>
</table>

   a. \(\frac{2}{9}\) mi  
   b. \(\frac{9}{2}\) mi  
   c. \(\frac{2}{7}\) mi  
   d. \(\frac{3}{9}\) mi

21. Jared is scheduled to work for \(\frac{4}{5}\) of an hour at the school fair. He has already worked \(\frac{1}{6}\) of an hour. How much longer does he have to work?
   a. 1 h  
   b. \(\frac{1}{6}\) h  
   c. \(\frac{19}{30}\) h  
   d. \(\frac{4}{5}\) h

22. A recipe calls for \(\frac{3}{4}\) cup of applesauce. Jean has \(\frac{1}{8}\) cup. How much more does she need?
   a. \(\frac{1}{2}\) cup  
   b. \(\frac{5}{8}\) cup  
   c. \(\frac{1}{4}\) cup  
   d. \(\frac{3}{8}\) cup

23. 6 days 15 h
   a. 129 h  
   b. 159 h  
   c. 144 h  
   d. 135 h

24. from 7:16 A.M. to 4:27 P.M.
   a. 8 h 11 min  
   b. 9 h 23 min  
   c. 9 h 11 min  
   d. 10 h 23 min

25. Elisa took 15 minutes to get dressed and eat breakfast. She listened to music and cleaned her room for 25 minutes. She then read a book for 2 hours and 15 minutes and worked on a model for 13 minutes before going outside to play. If Elisa started at 7:30 A.M., what time did she go out to play?
   a. 10:38 A.M.  
   b. 8:38 A.M.  
   c. 8:28 A.M.  
   d. 10:28 A.M.
6th Grade Packet 3

Multiple Choice
Identify the choice that best completes the statement or answers the question.

Find the product. Simplify.

1. \( \frac{1}{5} \times \frac{7}{9} \)
   a. \( \frac{35}{9} \) b. \( \frac{9}{35} \) c. \( \frac{45}{7} \) d. \( \frac{7}{45} \)

2. Evaluate \( 7x \) for \( x = \frac{5}{6} \).
   a. \( \frac{2}{5} \) b. \( \frac{5}{6} \) c. \( \frac{6}{35} \) d. \( \frac{5}{42} \)

Estimate the product.

3. \( \frac{2}{8} \cdot 8\frac{1}{4} \)
   a. 27 b. 10 c. 24 d. 16

4. Estimate the area of a picture measuring \( 3\frac{1}{7} \) feet by \( 8\frac{1}{9} \) feet.
   a. 27 ft\(^2\) b. 24 ft\(^2\) c. 36 ft\(^2\) d. 32 ft\(^2\)

Find the quotient.

5. \( \frac{5}{28} \div \frac{1}{7} \)
   a. \( \frac{1}{4} \) b. \( \frac{4}{5} \) c. \( \frac{5}{196} \) d. \( \frac{4}{21} \)

6. A rope is rated to hold \( 21\frac{2}{5} \) pounds before it breaks. Estimate by rounding to the nearest pound how many \( 2\frac{5}{8} \)-pound weights the rope will hold.
   a. 9 weights b. 5 weights c. 11 weights d. 7 weights

7. Evaluate \( y + 1\frac{3}{4} \) for \( y = \frac{5}{6} \).
   a. \( \frac{32}{39} \) b. \( \frac{3}{10} \) c. \( \frac{5}{24} \) d. \( \frac{31}{3} \)

Solve the equation. Check the solution.
8. \( \frac{x}{3} = \frac{1}{8} \)
   a. \( \frac{1}{24} \)  
   b. \( \frac{2}{23} \)  
   c. 24  
   d. \( \frac{3}{8} \)

9. \( \frac{c}{9} = 2 \)
   a. \( \frac{2}{9} \)  
   b. \( \frac{1}{18} \)  
   c. \( \frac{1}{42} \)  
   d. 18

10. It took 12 gallons of gas to fill the tank of the family car. This is \( \frac{5}{6} \) of the amount the tank can hold. How much gas does the tank hold?
   a. 10 gallons  
   b. \( \frac{142}{2} \) gallons  
   c. \( \frac{5}{6} \) gallons  
   d. \( \frac{5}{6} \) gallons

Complete the statement.

11. 3 c = □ pt
   a. 12  
   b. \( \frac{1}{2} \)  
   c. \( \frac{3}{4} \)  
   d. 6

12. \( 10 \frac{1}{6} \) yd = □ ft
   a. 122  
   b. 366  
   c. \( \frac{301}{2} \)  
   d. \( \frac{301}{6} \)

13. Write two different ratios equal to 6 : 30.
   a. \( \frac{4}{20}, \frac{1}{6} \)  
   b. \( \frac{5}{20}, \frac{1}{6} \)  
   c. \( \frac{5}{20}, \frac{1}{5} \)  
   d. \( \frac{4}{20}, \frac{1}{5} \)

14. Write the ratio 42 : 6 in simplest form.
   a. 8 : 1  
   b. 7 : 1  
   c. 1 : 8  
   d. 1 : 7

Find the value that completes the proportion.

15. \( \frac{7}{3} = \frac{?}{24} \)
   a. 70  
   b. 56  
   c. 63  
   d. 77

16. A car travels 136 miles using 7 gallons of gas. At that rate, how far can the car travel using 42 gallons of gas?
   a. 1,224 mi  
   b. 816 mi  
   c. 952 mi  
   d. 1,088 mi

17. A van travels 180 miles on 6 gallons of gas. How many gallons will it need to travel 750 miles?
Solve the proportion.

18. \[ \frac{19}{12} = \frac{f}{9} \]
   a. 15.25  b. 14.75  c. 14.25  d. none of these

19. A map has a scale of 3 centimeters : 8 kilometers. If two cities are 11 centimeters apart on the map, what is the actual distance between the cities, to the nearest tenth of a kilometer?
   a. 41.3 km  b. 29.3 km  c. 4.1 km  d. 293.3 km

Write the decimal or fraction as a percent.

20. 0.2
   a. 0.02%  b. 2%  c. 20%  d. 0.2%

21. Find 60% of 38.
   a. 228  b. 2.28  c. 0.98  d. 22.8

22. Estimate a 15% tip for $21.50.
   a. $3.00  b. $23.00  c. $13.00  d. $300.00

Estimate the sale price of the item.

23. 60% off a pair of shoes for $51.95
   a. $40  b. $30  c. $20  d. $26

24. Estimate 4.7% of 160.
   a. 80  b. 16  c. 47  d. 8

25. The team’s ratio of games won to games played was 3 to 8. If the team played 88 games, how many games did the team win?
   a. 11 games  b. 33 games  c. 55 games  d. 3 games
6th Grade Packet 4

Multiple Choice
Identify the choice that best completes the statement or answers the question.

Use the diagram.

1. Identify a segment skew to \( \overline{AD} \).  
   a. \( \overline{HG} \)  
   b. \( \overline{BE} \)  
   c. \( \overline{DC} \)  
   d. \( \overline{EF} \)

2. Which segment is skew to both \( \overline{CF} \) and \( \overline{CD} \)?  
   a. \( \overline{BC} \)  
   b. \( \overline{AB} \)  
   c. \( \overline{AD} \)  
   d. \( \overline{GH} \)

Classify the angle as acute, right, obtuse, or straight.

3.  
   a. straight  
   b. acute  
   c. right  
   d. obtuse

4. A triangle has sides with measures 49, 86, 45. Classify the triangle by its sides.  
   a. equilateral  
   b. scalene  
   c. isosceles

5. A baseball field has four bases that form the shape of a quadrilateral. If someone invented a new game similar to baseball that had an extra base in the field, what type of polygon would the bases form?  
   a. pentagon  
   b. octagon  
   c. decagon  
   d. hexagon

Choose an appropriate metric unit for the mass.

6. concrete in a section of sidewalk  
   a. kilogram  
   b. milligram  
   c. gram  
   d. meter

Choose an appropriate metric unit for the capacity.

7. water in a car-washing bucket  
   a. kiloliter  
   b. liter  
   c. milliliter  
   d. meter

Complete the statement.
8. 2,231.5 milligrams = □ grams
   a. 2.2315 g       b. 223.15 g       c. 22,315 g       d. 0.0022315 g

9. 83,310.5 mm = □ cm
   a. 83,310.5 cm     b. 833,105 cm    c. 8,331.05 cm    d. 8.33105 cm

10. 11 kg = □ g
     a. 11,000 g       b. 1,100 g       c. 110 g         d. 0.11 g

11. A sunflower was 1.8 meters high one week ago. In 7 days it grew 12 centimeters. Find the current height of the sunflower.
     a. 1.8 m           b. 10.2 cm        c. 13.8 cm        d. 1.92 m

12. Megan wants to build a fence around her pool. The pool is 28 feet long by 23 feet wide. The fence is to be 15 feet from the edge of the pool.
    a. What are the outside dimensions of the area surrounding the pool?
       b. How many feet of fencing will she need?
       a. 53 ft by 58 ft; 222 ft          c. 58 ft by 222 ft; 53 ft
       b. 222 ft by 53 ft; 58 ft          d. 58 ft by 53 ft; 222 ft

13. Find the area of the triangle.

   - Not drawn to scale
   a. 91 ft²       b. 148 ft²       c. 182 ft²       d. 629 ft²

14. Name the diameter for the circle Q.

   a. \overline{CQ}    b. \overline{BQ}    c. \overline{EC}    d. \overline{DE}