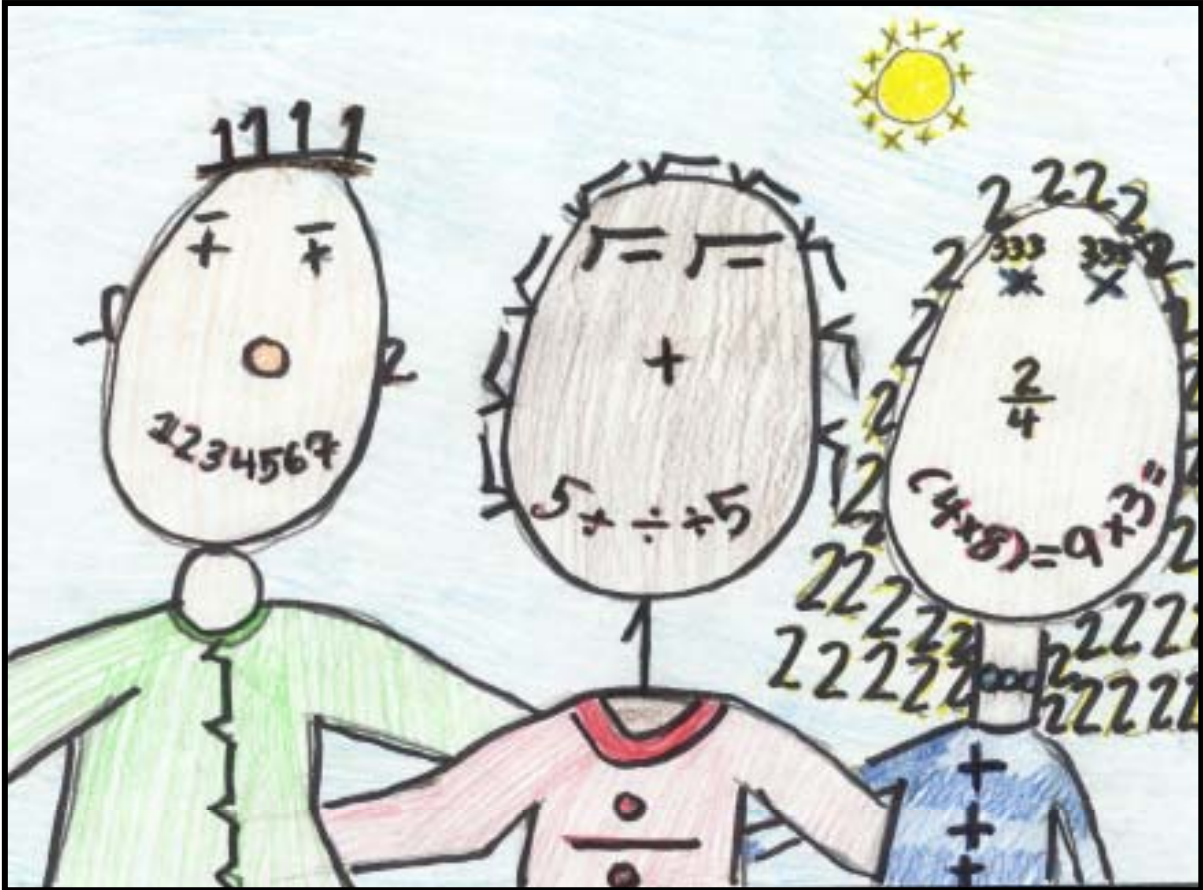


PARENT PACKET

Sail into Summer with Math!



For Students Completing Third Grade

This summer math booklet was developed to provide students in kindergarten through the eighth grade an opportunity to review grade level math objectives and to improve math performance.

Summer 2001

Grade 3 Mathematics Packet Answer Key

Week 1

- The answers are – 80, 40, 40, 60, 60, 20, 100, 10, 90, and 70
The answers are – 400, 500, 700, 400, 300, 700, 800, 300, 1000, 500
- Some of the different combinations are:

1 half dollar, 1 quarter, 1 nickel	1 half dollar, 1 quarter, 5 pennies
1 half dollar, 3 dimes	1 half dollar, 2 dimes, 2 nickels
1 half dollar, 2 dimes, 1 nickel, 5 pennies	2 quarters, 3 dimes
8 dimes	16 nickels
80 pennies	3 quarters, 1 nickel
1 quarter, 5 dimes, 1 nickel	
- The answers are – 500, 400, 900, 600, 1500, 1400, 1000, 900, 400, 1700, 1300, 800, 900, 1200, 300.
- Check the table to be sure 20 people were asked. Check that the two statements refer to the table, such as “More people enjoy swimming than biking,” etc.
- Check that the numbers are listed in order from least to greatest, a star is by the number closest to 4,000, the number with the largest digit in the hundreds place is circled in red, and the number with the smallest digit in the tens place is circled in blue.
- Answers can be $7/4/94$, $2/20/96$, $3/8/64$, $8/30/92$, $12/31/67$, $1/1/00$, $4/1/93$, $11/15/90$, $6/17/99$, $9/21/85$, $10/31/73$, and $5/10/75$.

Week 2

- The answers are – 430, 630, 710, 520, 840, 350, 580, 190, 210, 970, 350, 620, 500, and 440.
The next set – 4810, 7950, 3670, 2580, 6740, 1460, 3440, 8330, 5290, and 6000.
The palindromes are (first set) 838, 191, and (second set) 3443.
- Check to see which problems are circled and ask how your child determined the estimate.
The answers are – 850, 767, 637, 1219, 746, 960, 1154, 1004, 942, and 800.
Check that the story problem matches the problem.
- Check the table to be sure that the shapes are correct.
- Check the list for accuracy.
- Ashley will get back 25 cents – most probably a quarter.
- Possible answers:

17:	$8 + 9 = 17$	$17 - 8 = 9$	13:	$8 + 5 = 13$	$13 - 8 = 5$
	$9 + 8 = 17$	$17 - 9 = 8$		$5 + 8 = 13$	$13 - 5 = 8$
16:	$10 + 6 = 16$	$16 - 10 = 6$	15:	$9 + 6 = 15$	$15 - 9 = 6$
	$6 + 10 = 16$	$16 - 6 = 10$		$6 + 9 = 15$	$15 - 6 = 9$

Week 3

- Check to see which problems are circled and ask how your child determined the estimate.
The answers are – 79, 179, 762, 606, 616, 484, 627, 471, and 248
Check that the story problem matches the problem.

Week 3 Continued

2. Check that the calendar starts with Sunday the first (I). Roman numerals are V for 5 and X for 10. Four is IV (when a small value is in front of a larger value (one in front of five), it means to subtract, so IV means $5 - 1$, or 4) and nine is IX. Twelve is XII and fourteen is XIV. The second Wednesday is the 11th (XI), the fourth Friday is the 27th (XXVII), and the third week of July is the 15th through the 21st (Sunday to Saturday).
3. The answers are:

Yo-yo – inches/centimeters	Pool – feet or yards/meters
Sandbox – feet or yards/meters	Ice cream cone – inches/centimeters
Roller coaster – feet or yards/meters	Squirt gun – inches/centimeters
Hot dog – inches/centimeters	Slide – feet/meters
4. Carlos and Scott have enough money because \$0.40 plus \$0.45 is \$0.85, which is greater than \$0.75.
5. The answers are: \$0.65, \$0.64, \$0.93, \$1.85, \$4.98, \$10.58, \$2.53, and \$8.27.
6. Each girl ate $\frac{3}{12}$, or $\frac{1}{4}$, of the pizza, or 3 slices (there are Mary and three friends for a total of 4 people). Each girl will get 2 pieces each, or $\frac{2}{8}$, or $\frac{1}{4}$, of the chocolate bar.

Week 4

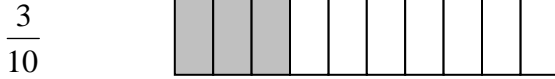
1. Check the table and graph to see that it includes 20 people. Be sure that the graph has a title and all parts are labeled. The two sentences should include information from the graph (such as one soft drink is liked better than another).
2. The answer should be reasonable for the cost of a cup of lemonade. The total earned will be the cost of the lemonade times the number of cups sold. The earnings should be the total divided by two.
3. The answers are: \$12.00, \$2.48, \$9.06, \$16.64, \$3.06, \$2.59, and \$43.51.
The story problem should be solved by one of the problems.
4. Amanda can have her party on the following dates: July 1st, 3rd, 4th, 5th, 6th, 7th, 15th, 17th, 18th, 19th, 20th, 21st, 26th, or 27th.
5. Check to see that one problem is circled (it was your child's estimate of the largest). Ask your child how they thought that this problem would be the largest.
The answers are: 69, 108, 126, 189, 1269, 456, 2769, 2439, and 1008
6. The answers are: 4:15 p.m., 2:00 p.m., 9:30 a.m., 3:45 p.m., and 1:30 p.m.

Week 5

1. Each day Katie received the following change: Monday - \$0.18, Tuesday - \$0.05, Wednesday - \$0.30, Thursday - \$0.25, and Friday - \$0.21. The total amount of money remaining will be \$0.99.
2. Check to see that one problem is circled (it was your child's estimate of the largest). Ask your child how they thought that this problem would be the largest.
The answers are: 816, 918, 2340, 1194, 1624, 8478, 3936, 4130, and 1377.

Week 5 Continued

3. Check to see that each fraction has the correct number of parts, that the parts are equal sizes, and the correct number of pieces are shaded. For example:



4. Possible answers (note: the total should be less than \$10.00):

Funny nose, goofy teeth, and rubber chicken - \$8.49

Juggling balls and funny nose - \$9.00

White make-up, goofy teeth, and funny nose - \$7.12

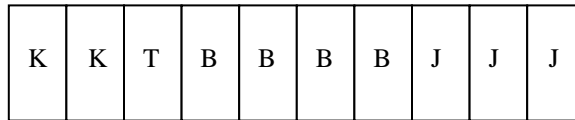
Squirting flower, funny nose, and rubber chicken - \$9.74

5. $4 \times 3 = 12$ $3 \times 4 = 12$ $12 \div 3 = 4$ $12 \div 4 = 3$
 $6 \times 3 = 18$ $3 \times 6 = 18$ $18 \div 3 = 6$ $18 \div 6 = 3$
 $4 \times 6 = 24$ $6 \times 4 = 24$ $24 \div 6 = 4$ $24 \div 4 = 6$
 $9 \times 3 = 27$ $3 \times 9 = 27$ $27 \div 3 = 9$ $27 \div 9 = 3$
 $9 \times 4 = 36$ $4 \times 9 = 36$ $36 \div 4 = 9$ $36 \div 9 = 4$
 $3 \times 7 = 21$ $7 \times 3 = 21$ $21 \div 7 = 3$ $21 \div 3 = 7$
 $7 \times 4 = 28$ $4 \times 7 = 28$ $28 \div 4 = 7$ $28 \div 7 = 4$
 $4 \times 8 = 32$ $8 \times 4 = 32$ $32 \div 8 = 4$ $32 \div 4 = 8$
 $6 \times 6 = 36$ $6 \times 6 = 36$ $36 \div 6 = 6$ $36 \div 6 = 6$
 $7 \times 6 = 42$ $6 \times 7 = 42$ $42 \div 6 = 7$ $42 \div 7 = 6$

6. Perimeter of square = about 14 cm Perimeter of top triangle = about 11½ cm
 Perimeter of diamond = about 14 cm Perimeter of square = about 10 cm
 Perimeter of bottom triangle = about 11.5 cm

Week 6

1. The fractional part each boy ate: Kevin ate $\frac{2}{10}$, or $\frac{1}{5}$, of the hot dogs, Tom ate $\frac{1}{10}$ of the hot dogs, Bill ate $\frac{4}{10}$, or $\frac{2}{5}$, of the hot dogs, and Jerome ate $\frac{3}{10}$ of them. There were no hot dogs left because $2 + 1 + 4 + 3 = 10$, which is all of the hot dogs. Also, as the picture shows, there are no $\frac{1}{10}$'s left.



2. Check the postcard and be sure that it includes at least four of the numbers:
 98 2,568 35 82 576 650 87 100 983 1,745 295 59
 Also check that the numbers make sense.

3. $\frac{1}{3}$ of 12 is 4 items. $\frac{3}{3}$ of 12 is 12 items. $\frac{2}{3}$ of 12 is 8 items.
 $\frac{1}{4}$ of 12 is 3 items. $\frac{2}{4}$ of 12 is 6 items. $\frac{3}{4}$ of 12 is 9 items.

The progression of items is: 12 items, 10 items, 5 items, 4 items, 1 item is left at the end.

Summer Mathematics Packet

Week 6 Continued

4. The answers are: 23, 40, 29, 36, 15 remainder 1, 15, 13, 8 remainder 2, 7 remainder 2, 10 remainder 1.
5. There are 12 possible types of sandwiches that can be made. A method could be to list all possibilities or to use a tree diagram
- | Bagel | | | Wheat | | | Pita | | | Tortilla | | |
|-------|-----|---|-------|-----|---|------|-----|---|----------|-----|---|
| Ch | Tur | H | Ch | Tur | H | Ch | Tur | H | Ch | Tur | H |
6. Check to see that problems are circled (it was your child's estimate of the greater than 500). Ask your child how they thought that these problems would be greater than 500. Answers are: 484, 589, 801, 378, 982, 462, 261, 743, 1063, 189, 493, 399, 529, and 657.

Week 7

1. Check the solution of the four problems. The greatest product should be determined by using the largest digit as the one digit factor and then arranging the other digits in decreasing order (the largest is $743 \times 9 = 6687$), because larger digits create larger products.
2. Check that the calendar starts with Wednesday the first (see week three answers for a description of roman numerals). The fourth Tuesday in August is the 28th, so a fact family could be $4 \times 7 = 28$, $7 \times 4 = 28$, $28 \div 7 = 4$, and $28 \div 4 = 7$. All of the factors for the 9th are 1, 3, and 9. The tenth day of a trip that left the 8th will return on August 17th.
3. Check that the figures selected are polygons and that the perimeters are correct. Reminder: perimeters are the distance around an object and polygons are closed shapes.
4. The change will be: \$4.21, \$0.35, \$2.99, \$0.09, \$1.01, \$2.25, and \$1.53.
5. Check that the table shows the information from at least 20 people. Check that the graph matches the table and that the graph has a title and everything labeled. The two sentences about the graph should discuss the information in the graph.
6. The possible patterns are (some have more than one possibility):
Decreasing by three – 24, 21, and 18
Increasing by five – 29, 34, and 39
Increasing by consecutive numbers – 20, 26, and 33
Double powers of two – 8, 16, and 16
Increasing by ten – 48, 58, and 68
Increasing by fours – 14, 18, and 22
Increasing by twenty – 87, 107, and 127
7. The order is:
- | | |
|--------|--------|
| Orange | Red |
| Blue | Pink |
| Green | Yellow |

Week 8

1. Sums of 1000:
- | | |
|-------------------|-------------------|
| 293 and 707 | 467 and 523 |
| 597 and 403 | 186 and 814 |
| 81 and 919 | 308, 417, and 275 |
| 218, 159, and 623 | 334 and 666 |
| 316 and 684 | 186 and 814 |
- Strategies could include guess and check, reasonable answer, starting with ones digits, etc

Week 8 Continued

2. The answers are:

- 9 ÷ 4 is 2 muffins each with 1 remaining
- 8 ÷ 3 is 2 apples each with 2 remaining
- 30 ÷ 5 is 6 tickets each
- 10 ÷ 5 is 2 hats each
- 19 ÷ 9 is 2 stickers each with 1 remaining
- 24 ÷ 10 is 2 pencils each with 4 remaining
- 11 ÷ 11 is 1 ball each
- 15 ÷ 6 is 2 balloons each with 3 remaining
- 35 ÷ 6 is 5 bananas each with 5 remaining
- 21 ÷ 6 is 3 marbles each with 3 remaining
- 27 ÷ 8 is 3 oranges each with 3 remaining
- 43 ÷ 7 is 6 shells each with 1 remaining

3. 9 possible combinations: Penny is P, Nickel is N, and D is Dime

- | | | | | | |
|-----|-----|-----|-----|-----|-----|
| PPP | PPN | PPD | PND | PNN | PDD |
| NNN | NND | NDD | DDD | | |

Note: a tree diagram will give you twice as many outcomes since the order of the coins does not matter.

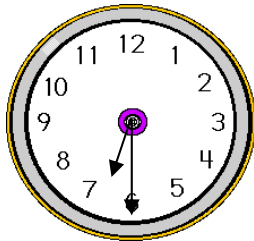
4. Check on a calculator if the keys actually spell the given word.

5. The answers are:

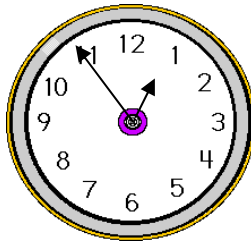
- Mitchell scored 73 points.
- They need to ride 13 more miles to get to Harper's Ferry.
- Ed took home 13 Jolly Ranchers.
- Connie will work 7 more hours this week.
- Brian can make 7 planes.

6.

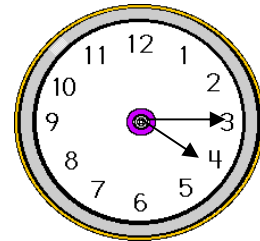
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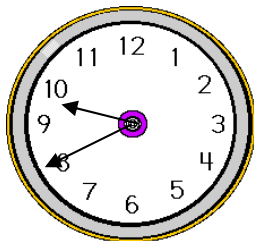
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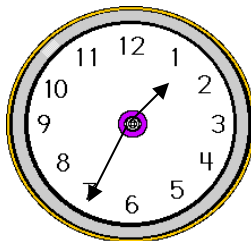
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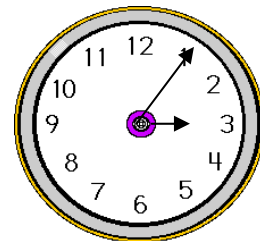
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5.

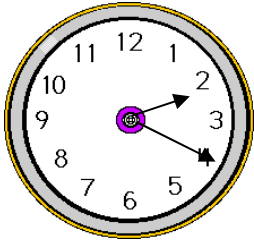


6.

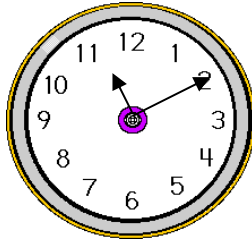


Week 8 Continued

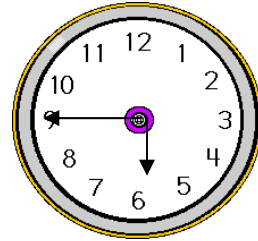
6. 7.



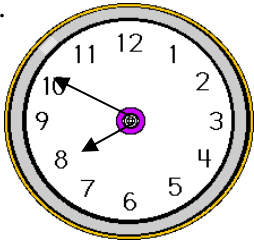
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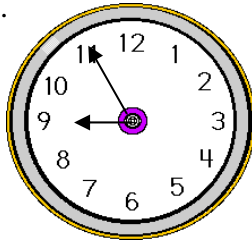
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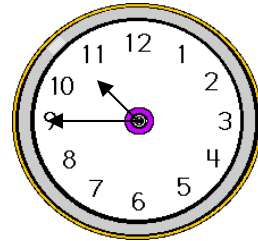
10.



11.



12.



The times two hours ahead are:

2. 2:55
10. 9:50

4. 11:40
12. 12:45

6. 5:05

8. 1:10