Monster Math

Practice Problems

The following problems are for you to use to practice problem-solving strategies in your classroom and/or help prepare your students for the Monster Math Competition.

The problems are from past competitions and include a variety of grade level problems. Please visit our website for more info on Monster Math:

http://gandt.jordandistrict.org/specialprograms/monstermath/

Monster Math 2ⁿᵈ Grade

Practice Problem #1

Jose saved nickels in a piggy bank and dimes in a tin can. He needed 55 cents to buy enough candy to share with his friend. He paid for the candy with 8 coins. How many of each coin did Jose use to buy the candy?

Answer: _____

Show, label, and explain all work:

Monster Math 2nd Grade

Practice Problem #2

Sue went to the beach during summer vacation. The first day Sue found 2 seashells. The next day she found 4 seashells. Each day of her vacation, Sue found 2 more seashells than the day before. She saved all the seashells she found to share with her friends. On what day did she have 20 seashells?

Answer: _____

Show, label, and explain all work:

Monster Math 2nd Grade Answers

Practice Problem #1

Jose saved nickels in a piggy bank and dimes in a tin can. He needed 55 cents to buy enough candy to share with his friend He paid for the candy with 8 coins. How many of each coin did Jose use to buy the candy?

Answer: Jose used 5 nickels and 3 dimes to buy the candy.

Show, label, and explain all work:

Nickels: 5+5+5+5+5=25 cents   Dimes: 10+10+10=30   25 cents
(Counted by 5's: 5, 10, 15, 20,   (Counted by 10's: 10   + 30 cents
        25 cents)   20, 30 cents)   55 cents

5 nickels + 3 dimes = 8 coins

Practice Problem #2

Sue went to the beach during summer vacation. The first day Sue found 2 seashells. The next day she found 4 seashells. Each day of her vacation, Sue found 2 more seashells than the day before. She saved all the seashells she found to share with her friends. On what day did she have 20 seashells?

Answer: Sue had 20 seashells on the 4th day of her vacation.

Show, label, and explain all work:

Day	# Seashells collected	Total # of Seashells saved
1	2	2
2	(2+2) 4	2+4 = 6
3	(4+2) 6	6+6 = 12
4	(6+2) 8	12+8 = 20

First we found the pattern. Sue collected 2 more each day than the day before. Then we added how many she saved each day. On the 4th day she had saved 20 seashells.

Monster Math 3rd Grade

Practice Problem #1

Callie raises and sells dogs. The first year, Callie's dogs had 2 puppies. The second year, her dogs had three-times as many puppies as the first year. The third year her dogs had five times as many puppies as the first year. If Callie sells the puppies for $200 each, how much money will she have made?

Answer: _____

Show, label, and explain all work:

Monster Math 3rd Grade

Practice Problem #2

Tammie hates to waste anything. She found an old roll of 15-cent stamps and a book of 33-cent stamps. She needs to mail a package to her best friend. The package needs $1.77 in postage. What combination of 33-cent and 15-cent stamps can Tammie use to mail her package for exactly $1.77?

Answer: _____

Show, label, and explain all work:

Monster Math 3rd Grade Answers

Practice Problem #1

Callie raises and sells dogs. The first year, Callie's dogs had 2 puppies. The second year, her dogs had three-times as many puppies as the first year. The third year her dogs had five times as many puppies as the first year. If Callie sells the puppies for $200 each, how much money will she have made?

Answer: Callie will have made $3,600.00.

Show, label, and explain all work:

	1st year	2nd year	3rd year
Puppies:	2	(2x3) = 6	(2x5) = 10

2 puppies + 6 puppies + 10 puppies = 18 puppies

$200 for each puppy x 18 puppies = $3,600.00

Practice Problem #2

Tammie hates to waste anything. She found an old roll of 15-cent stamps and a book of 33-cent stamps. She needs to mail a package to her best friend. The package needs $1.77 in postage. What combination of 33-cent and 15-cent stamps can Tammie use to mail her package for exactly $1.77?

Answer: Tammie can use four 33-cent stamps and three 15-cent stamps.

Show, label, and explain all work:

Four 33-cent stamps: (33 + 33 + 33 + 33) = $1.32
Three 15-cent stamps: (15 + 15 + 15) = $.45

$1.32
+ .45
$1.77

Monster Math 4ᵗʰ Grade

Practice Problem #1

My New Year's Resolution is to get in shape by walking everyday. I start on Monday by walking for 5 minutes, on Tuesday for 6 minutes, on Wednesday for 8 minutes and on Thursday for 11 minutes. If I continue to increase my time at the same rate, what day of the week would I walk for 1 hour?

Answer: _____

Show, label, and explain all work:

Monster Math 4ᵗʰ Grade

Practice Problem #2

Justin and Pedro raked leaves for a service project. Together they filled 15 bags. Their truck was parked 60 feet from the recycle bin. Justin carried 2 bags of leaves at a time while Pedro carried 1 bag at a time. They both took the same number of trips. How many feet did they walk altogether to get all the bags to the recycle bin?

Answer: _____

Show, label, and explain all work:

4th Grade Monster Math Answers

Practice Problem #1

My New Year's Resolution is to get in shape by walking everyday. I start on Monday by walking for 5 minutes, on Tuesday for 6 minutes, on Wednesday for 8 minutes and on Thursday for 11 minutes. If I continue to increase my time at the same rate, what day of the week would I walk for 1 hour?

Answer: On Thursday I would walk for 1 hour.

Show, label, and explain all work:

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
5 min.	6 min.	8 min.	11 min.	15 min.	20 min.
	5+1 min.	6+2 min.	8+3 min.	11+4 min.	15+5 min.
Monday	**Tuesday**	**Wednesday**	**Thursday**	**Friday**	**Saturday**
33 min.	41 min.	50 min.	60 min.		
26+7 min.	33+8 min	41+9 min.	50+10 min.		

I found the pattern: add 1 minute more to the time walked the day before (1, 2, 3, 4, 5, 6, etc.)

Practice Problem #2

Justin and Pedro raked leaves for a service project. Together they filled 15 bags. Their truck was parked 60 feet from the recycle bin. Justin carried 2 bags of leaves at a time while Pedro carried 1 bag at a time. They both took the same number of trips. How many feet did they walk altogether to get all the bags to the recycle bin?

Answer: Justin and Pedro walked 1,080 feet together to the recycle bin.

Show, label, and explain all work:

Justin carried 2 bags each trip while Pedro carried 1 bag each time. (2+1 = 3 bags each time)
15 bags, divide by 3 bags each trip = 5 trips to get to the recycle bin.
60 feet one way to the bin (to the bin and back 60 feet + 60 feet = 120 feet per trip)
120+120+120+120=480 feet for 4 trips
The last time I just need to go to the bin so add 60 more feet.
 480 feet + 60 feet = 540 feet for 1 person to get to the bin.
 540 feet + 540 feet for the other person = 1,080 feet they walked together to the recycle bin.

Monster Math 5ᵗʰ Grade

Practice Problem #1

Maria has 12 Golden Delicious apples that weight .6 pounds each and some Jonathan apples that weight .8 pounds each. She plans on making applesauce where 1/3 of the weight is from Golden Delicious apples and 2/3 of the weight is from Jonathan apples. If she uses all of her Golden Delicious apples, how many Jonathan apples should she use?

Answer: _____

Show, label, and explain all work:

Monster Math 5ᵗʰ Grade

Practice Problem #2

Two friends are going on a trip to Disneyland. They need to take a taxi from the airport to their hotel. The taxi costs $1.60 plus $.25 per 1/8 mile. The distance from the airport to the hotel is 13.25 miles. The 2 friends will share the fare equally. How much money will each passenger owe?

Answer: _____

Show, label, and explain all work:

Monster Math 5th Grade Answers

Practice Problem #1

Maria has 12 Golden Delicious apples that weight .6 pounds each and some Jonathan apples that weight .8 pounds each. She plans on making applesauce where 1/3 of the weight is from Golden Delicious apples and 2/3 of the weight is from Jonathan apples. If she uses all of her Golden Delicious apples, how many Jonathan apples should she use?

Answer: 18 Jonathan Apples

Show, label, and explain all work:

12 Golden Delicious apples each weigh .6 lb.
    (12 x .6 = 7.2 lbs) = 1/3 of the weight for the applesauce
    7.2 + 7.2 = 14.4 = 2/3 of the weight for the applesauce
Jonathan apples need to be 2/3 of the weight of the applesauce = 14.4 divided by .8
    (each Jonathan apple weighs) = 18 Jonathan Apples needed for the applesauce.

Or: 12 Golden Delicious Apples x .6 (each weigh) = 7.2 lbs. divided by .8
    (each Jonathan weighs) = 9 would be 1/3 of the Jonathan Apples.
    Need 2/3 for the applesauce 9 + 9 = 18 Jonathan Apples needed.

Practice Problem #2

Two friends are going on a trip to Disneyland. They need to take a taxi from the airport to their hotel. The taxi costs $1.60 plus $.25 per 1/8 mile. The distance from the airport to the hotel is 13.25 miles. The 2 friends will share the fare equally. How much money will each passenger owe?

Answer: Each person will owe $14.05

Show, label, and explain all work:

25 cents x 1/8 of a mile (8/8 make 1 mile) 25 cents x 8 = $2.00 per mile
    13. 25 miles x $2.00 mile = $26.50 + $1.60 = $28.10
Each person pays ½ so $28.10 divided by 2 people = $14.05 each person will pay.

Monster Math 6ᵗʰ Grade

Practice Problem #1

Two couples played a round of golf together. No two golfers had the same score, although the combined score of Mr. and Mrs. Albert was 187, the same as that of Mr. and Mrs. Baker. From the statements below, determine the first name (one is Harry), last name, and score of each of the four players.

- George didn't have the lowest score of the 4 players, but it was lower than the average score.
- Kathryn's score was 3 strokes higher than Carol's.
- There was only 1 stroke difference between the scores of Mr. & Mrs. Albert.
- The average score of the 2 men was two strokes higher than the average score of the two women.

Answer: _____

Show, label, and explain all work:

Monster Math 6th Grade
Practice Problem #2

A family left their house on Friday at 9:00am to go to their grandmother's house in another state. Their grandmother lives 1,530 miles away. If they average 42.5 mph, on what day and at what time will they arrive at their grandmother's house?

Answer: _____

Show, label, and explain all work:

Monster Math 6ᵗʰ Grade Answers

Practice Problem #1

Two couples played a round of golf together. No two golfers had the same score, although the combined score of Mr. and Mrs. Albert was 187, the same as that of Mr. and Mrs. Baker. From the statements below, determine the first name (one is Harry), last name, and score of each of the four players.

- George didn't have the lowest score of the 4 players, but it was lower than the average score.
- Kathryn's score was 3 strokes higher than Carol's.
- There was only 1 stroke difference between the scores of Mr. & Mrs. Albert.
- The average score of the 2 men was two strokes higher than the average score of the two women.

Answer: Carol Baker 91, George Albert 93, Harry Baker 96 and Kathryn Albert 94

Show, label, and explain all work:

First Name	Last Name	Score
Carol	Baker	91
George	Albert	93
Harry	Baker	96
Kathryn	Albert	94

Kathryn's score 94 is 3 higher than Carol's 91 (94 – 91 = 3)
George, not lowest but lower than average (93.5) is 93

Practice Problem #2

A family left their house on Friday at 9:00am to go to their grandmother's house in another state. Their grandmother lives 1,530 miles away. If they average 42.5 mph, on what day and at what time will they arrive at their grandmother's house?

Answer: They would arrive at their grandmother's house on Saturday at 9:00pm.

Show, label, and explain all work:

42.5 mph divided into 1,530 miles – 36 hours to get to grandma's house.

9:00am Friday to 9:00am Saturday is 24 hours (36 hours – 24 hours = 12 hours)

9:00am to 9:00pm on Saturday would be 12 more hours (24 hours + 12 hours = 36 hours).

Monster Math 7ᵗʰ Grade

Practice Problem #1

Nick works hard to get A's in math because math is his favorite subject. He needs at least a 94% average on 5 tests to receive an A. He has taken 3 tests and has an average of 92%. What is the minimum Nick must average on the last 2 tests in order to get an A?

Answer: _____

Show, label, and explain all work:

Monster Math 7ᵗʰ Grade

Practice Problem #2

It takes 16 hours to fill a swimming pool using a small hose. A large hose connected to a different water supply can fill the same pool in 12 hours. The owner starts to fill the empty pool with the smaller hose at 8:00am. She turns on the larger hose at 10:00am. Both hoses are used from 10:00am to 3:00pm. What percent of the pool is filled by 3:00pm?

Answer: _____

Show, label, and explain all work:

Monster Math 7th Grade Answers

Practice Problem #1

Nick works hard to get A's in math because math is his favorite subject. He needs at least a 94% average on 5 tests to receive an A. He has taken 3 tests and has an average of 92%. What is the minimum Nick must average on the last 2 tests in order to get an A?

Answer: Nick must average 97% on his next 2 tests.

Show, label, and explain all work:

Average of 5 tests must be 94%
Total number of points (5 x 94% = 470 points)
92% is the average for 3 tests (3 x 92% = 276 points)
470 points – 276 points = 194 more points needed on the next 2 tests (194 divided by 2-97%)

Proof: 97% + 97% + 92% + 92% + 92% = 470 divided by 5 tests = 94%

Or:
92% average for 3 tests so far
92 + 2 = 94, 92 + 2 = 94, 92 + 2 = 94 (so he needs 6 more points on his next 2 tests)
So 94 + 3 = 97%; = 94 + 3 = 97%

Practice Problem #2

It takes 16 hours to fill a swimming pool using a small hose. A large hose connected to a different water supply can fill the same pool in 12 hours. The owner starts to fill the empty pool with the smaller hose at 8:00am. She turns on the larger hose at 10:00am. Both hoses are used from 10:00am to 3:00pm. What percent of the pool is filled by 3:00pm?

Answer: 85.4% of the pool would be filled.

Show, label, and explain all work:
Small hose takes 16 hours to fill the pool. (8:00am – 3:00pm = 7 hours)
Small hose ran 7 hours and filled 7/16 of the pool.
Large hose takes 12 hours to fill the pool (10:00am – 3:00pm = 5 hours)
Large hose ran 5 hours and filled 5/12 of the pool.

7/16 + 5/12 = 41/48 of the pool is filled. Change 41/48 to % = 85.4%
Or
7/16 = 43.75% + 5/12 = 41.66% = 85.4% of the pool would be filled.