SIXTH GRADE
PRACTICE PROBLEMS

Below is a sample of middle school math problems showing the level of difficulty that students can expect to see at the competition events.

1. Toni uses her phone for 12.5 hours per month. She is charged $0.20 per minute. What is Leanne's monthly phone bill?
2. The Mahon family traveled 3562.5 miles on a trip across the United States. Since one mile is about 1.6 kilometers, how many kilometers did they travel?
3. Wall used a trailer to haul dirt. The trailer is in the shape of a rectangular prism. The interior of the trailer has a length of 8 feet, a width of 4 feet, and a height of 2 feet. What is the total number of cubic feet of dirt that the trailer can hold when it is filled so that the dirt is level with the top?
4. Karen will toss a number cube that has faces numbered 1 through 6. What is the probability that the cube will land with an even number showing on the top face?
5. If $55 of a $220 budget is spent on clothes, what percent of the budget is spent on clothes?
6. In Mr. Simpson's barn, all the animals have either two wings, four paws, or four hooves. If there are 40 wings, 20 paws, and 80 hooves in Mr. Walton's barn, how many animals are there?
7. Faith paid $25.10 for a newspaper ad. The newspaper charged $5.02 for 3 lines of print. How many lines was the ad?
8. James ran 48 yards and Susan ran 150 feet. What is the difference in the number of feet James and Susan ran?
9. A bag contains 2 cherry, 4 orange, and 6 grape jawbreakers. If one jawbreaker is drawn from the bag, what is the probability it is cherry?
10. In his drawer, Alex has 6 identical blue socks and 6 identical brown socks. The light in the room is broken so he must choose his socks in the dark. What is the smallest number of socks Alex must take to be sure he has a pair of blue socks?
11. Sam earned $86.00 after school each week before taxes were taken out. His employer took 16% of his wages out for tax and Social Security deductions. How much was his take-home pay?
12. Kelly's three-point shooting average is 40%. How many shots should she shoot if she wants to make 12 three-point shots?
13. The tickets for Six Flags Amusement Park increased from $42.00 last year to $63.00 this year. What was the percent of increase of the ticket cost?
14. Rosida wants to buy a bicycle that sells for $315.00. She can pay $75.00 down and the rest in 12 payments each of $21.80. How much more does the bicycle cost buying it this way than paying for it all at once?
15. A passenger train is half a mile long. It travels at a speed of 70 mph. It comes to a tunnel that is 1 mile long. How long will it take the train to pass completely through?

SEVENTH GRADE
PRACTICE PROBLEMS

- The voice on the phone was yet another creditor. His coarse voice and rudeness began to infuriate me. "Just how much do I owe?" I demanded. He replied, "You owe $797.40 on your credit card. We will have to add a past due charge of $32, an over limit fee of $24, and a service charge of 8% of the amount owed on the credit card." I told him I would send a check for the full amount immediately. For how much should the check be written?

- Mr. Snead makes $25,800 a year. His boss, Ms. Tong just gave him a raise. Now he makes $28,200 a year. His salary has increased by what percent? Round your answer to the nearest tenth of a percent.

- A jar contains 23 green, 6 brown, 12 orange, and 12 blue marbles. A marble is drawn at random.
  P(not blue).

- The students in Mr. Thompson's class were putting on a play for the children in the primary grades at their school. The play was based on the book, <u>The 500 Hats of Bartholomew Cubbins</u>. The students made their own costumes, even the five hundred hats! If it cost $43.45 for the materials for the five hundred hats, how much did each hat cost?

- How many permutations can you make from the letters A through F?

- You roll a number cube numbered from 1 to 6.
  P(a number divisible by 3)
  Express the probability as a percent. Round to the nearest percent.

- 9.6837 x 9.7362

- A number from 14 to 21 is drawn at random.
  P(not a 21)
  Express the probability as a decimal. Round to the nearest hundredth.

EIGHTH GRADE
PRACTICE PROBLEMS

- A box full of geodes was put up for sale at an auction. A geode is a spherical rock that contains crystals. They look really cool when broken open. However you never know what you are going to find when you break one open. Jordan decided to bid on them. He checked them out beforehand and counted twenty-four geodes in the box. He decided he was willing to pay up to $1.92 a piece for them. What should his maximum bid be?

- Twenty-six less than 2 times a number is 2. What is the number?

- 12,000 and 12,000,000 added to two-fourths of a number equals 12,050,984. What is the number?

- 82.81 more than 12 times a number is 216.01. What is the number?

- Write 7 6/7 as a decimal.

- 1,359 and 9,592 added to the difference between 586 and half of a number is 11,446. What is the number?

- Negative five times a number is negative one hundred seventy. What is the number?

- At the local woodworking supply shop unfinished oak boards cost $4.92 per board foot. A board foot is a piece of wood 12-in by 12-in by 1-in. How much would an unfinished oak board cost if it was six inches wide, one inch thick and five feet long?

- Daniel bought a very large star map for his bedroom wall. The map is round. Its radius is three feet. What is the circumference and area of the wall map?

- Clarita's sister works in an American company in Amarillo, Texas. She works forty-five hours every week and is paid $15.27 per hour. She sends two-thirds of her weekly salary to Clarita to take care of their mother. How much money does Clarita's sister send home each week?

- Ploozits are weird. They can be broken into any fractional part desired and then later be reassembled without harm. Sometimes even fractional parts of ploozits are shipped around the country to be assembled with other fractional parts to make new whole ploozits. TABCO had 30.382 ploozits they needed to ship to Germany. Someone decided the easiest way to do it would be to put the same amount of ploozits in each box. If they had twenty-two boxes, how many ploozits would go in each box?