Math 6B Spring Semester Midterm

Fractions

1.
$$5 \div \frac{1}{3} =$$

2.
$$\frac{5}{6} \div \frac{1}{3} =$$

3.
$$\frac{3}{5} \div \frac{9}{10} =$$

4.
$$\frac{5}{6} \div \frac{1}{3} =$$

5.
$$\frac{5}{8} - \frac{1}{2} + \frac{3}{4} =$$

6.
$$3 - \frac{1}{3} \div 4 =$$

7.
$$\frac{2}{5} \times (\frac{3}{4} - \frac{3}{8}) =$$

8.
$$16 - 4 \times 2 + 4 \div \frac{1}{2} =$$

9.
$$\frac{5}{9} \div \frac{5}{6} - \frac{4}{5} \times \frac{3}{4} =$$

10. How many stones weighing $\frac{1}{10}$ pounds each will have a total weight of 9 pounds?

- 11. Jasmine had 120 grams of sugar. She used $\frac{3}{8}$ of it to bake a cake. How many grams of sugar does she have left?
- 12. Jasmine made 400 cakes. She sold $\frac{2}{5}$ of them and gave away $\frac{3}{4}$ of the remainder. How many cakes did she give away?
- 13. Bob spent $\frac{1}{7}$ of his money on a new microphone. If the microphone cost \$50, how much money did he have at first?
- 14. Alex spent $\frac{1}{4}$ of his money on a videogame and $\frac{1}{2}$ of the remainder on a lollipop. He spent \$10 altogether. How much money does he have left?

Circles

- 15. Write the formulas for the following (in terms of radius r & π)
 - a) Circumference of a circle

d) Area of a quarter-circle

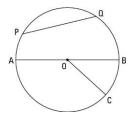
b) Area of a circle

e) Area of one-tenth of a circle

c) Area of a semi-circle

f) Two expressions for π (decimal & fraction)

16. According to the diagram on the right, the diameter is ______, the chord is ______, and the



radius is _____

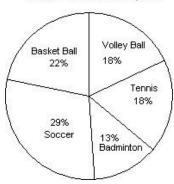
17. Use the following diagram to answer the questions. Leave answers in terms of π . (Radius of each small, dark gray semicircle is 2 cm.)



- a) What is the **perimeter** of the light grey region?
- b) What is the **area** of the three semicircles?
- c) What is the **area** of the largest semicircle?
- d) What is the area of the light grey region?

Graphs

Students Favorite Sports



A group of 500 students were surveyed to name their favorite sport.

- a) What was the most popular sport?
- b) What was the least popular sport?
- c) What **percentage** of the students chose tennis?
- d) How many **students** chose basketball?