Review earlier topics:

Area and perimeter.

1. Find the area and perimeter of (assume dot spacing of 1 cm)



Ratios:

2. At a dog show the ratio of mongrels to pure-breds is two to seven. If two more pure-bred dogs and two more mongrels arrive, will that ratio increase or decrease? If there are only 8 mongrels after the new dogs arrive, how many dogs are there now?

3. The ratio of M&Ms to crackers in my trail mix is 1:3. I need more trail mix, so I add equal handfuls of M&Ms and crackers. Does my trail mix have a higher or lower proportion of M&Ms now?

Would it be accurate to say that the new ratio of M&M’s to crackers is 2:4? Why or why not?

4. Solve using a bar diagram:

a. Andrea has 2/3 as many apples as Janet. If they have 60 apples all together, how many apples does Janet have?

b. The ratio of Mike’s stickers to John’s stickers is 3:5. If John has 14 more stickers than Mike, how many stickers does Mike have?

5. Solve using rates and dimensional analysis:

Candice can make 10 teddy bears with 4 lbs of stuffing. How much stuffing will she need for 16 bears?

Percents:

Solve using a grid and with algebra:

6. The price of a home rose from 120,000 to 145,000. By what percent did it increase?

7. A video game that is on sale 35% off costs $28. What was the original price?

8. The price of berries was $1.40/pt in summer. In winter the price increased by 180%. What is the winter price of berries?

Decimals:

9. Show how to multiply 1.3 × 2.7 on a grid, labelling the place-value partial products. Combine the partial products to find the total product.

Fractions:

10. Explain the meaning of the fraction 13/8, and show it on a number line.

11. Show and explain 2/3 + 4/5 using rectangular diagrams.

12. Show and explain 3/4 × 5/8 using a rectangular diagram.

13. Show and explain 5/6 ÷ 2/3 using a bar diagram

14. Write an addition, subtraction, multiplication and division word problem with fractions

15. Solve these word problems:

a. Bob had 1/2 pan of brownies. He gave 1/3 of what he had to Mary. How much of a pan of brownies does Bob have left?

b. Sunflower seeds are sold in packages that weigh 3 1/4 ounces. If there is a supply of 66 ounces of sunflower seeds, how many packages of seed can be made? How many ounces of seeds will be left over?

c. Alice had 3/4 lb. of candy. She gave 1/3 lb. of the candy to Scott. How much candy does she have left?

d. Frank has 3/8 of a gallon of gas in his mower. His mower is 4/5 of the way full. How much gas would his mower hold if it were full?

e. Maureen has 3/8 of a box of marbles. A full box of marbles weighs 4/5 of a pound. How much do Maureen’s marbles weigh?