COMPETIFY HUB

FUELING AMBITION, FORGING PATHS

MATH LEVEL 1

GRADES 1-4

PROVIDING FREE RESOURCES FOR ALL

Demo Set 3

Q21:

They are having a sale at the new shop in town: Buy at least $30 worth of products, and the rest of the money you spend (excluding the first $30) gets 20% off. When Kevin goes to the shop, the original total price of the products he buys would be $130. However, with the sale going on, how much less would he need to pay?

Q22:

Cassie is helping her book club buy copies of the next book they will be reading. There are 22 members, including herself, and everyone will need a copy. She can either buy each book individually, with each copy being $12. Or, she can buy a box of books for $100, with 10 books in each one. Which would be the more affordable option?

21a:

130-30=$100, so $100 is the part that gets the 20% discount. 100 x (100%-20%)= 100 x 0.8=80. Then, subtract $80 from $130, meaning Kevin would need to pay $50 less.

Ans: Kevin would need to pay $50 less.

22a:

If she chooses Option 1, it'll cost 22x12=$264 in total. However, if she chooses Option 2, she needs to purchase two boxes, and then another two books individually. This would cost 100 x 2+12 x 2=100+24=$224. $264 is greater than $224, so Option 2 is the more affordable option.

Ans: $264 is greater than $224, so Option 2 is the more affordable option.

Q23:

Jim's teacher is selecting the next student to present with a wheel that has each of his classmates names on it. There are 25 students in his class. What is the percent chance that he will get picked?

Q24:

Jake has 12 cupcakes. He gives ⅓ of them to his teacher, and ¼ of what's left to his friend. Then, he buys 4 more cupcakes, and shares ½ of them with his family. How many cupcakes does Jake have left?

23a:

Jim is only one person out of 25. 1/25=0.04=4%. There is a 4% chance he will get picked.

Ans: There is a 4% chance he will get picked.

24a:

⅓ of 12 is 4, which means Jake has 12-4=8 cupcakes after giving 4 to his teacher. ¼ of 8 is 2, so he gave his friend 2, and now has 8-2=6 cupcakes. 6+4=10 cupcakes. ½ of 10 is 5, and 10-5=5, so Jake has 5 cupcakes left.

Ans: Jake has 5 cupcakes left.

Q25:

Rachel made 124 chocolate strawberries. First, she packages them in boxes of 4. However, after packaging 15 boxes, she decides to package the rest in boxes of 6. How many boxes 6 will she have when she's done packaging?

Q26:

Camila is organizing balloons for her friend's birthday party. However, she accidentally pops ⅕ of the balloons. Now, there are only 20 balloons left. How many balloons did Camila pop?

25a:

15x4=60, so Rachel packaged 60 chocolate strawberries. 60 subtracted from 124 is 64, so she has 64 strawberries left to package. 64/6=10 with a remainder of 4. That means she will have 10+1=11 boxes of 6.

Ans: That means she will have 10+1=11 boxes of 6.

26a:

Since there are 20 balloons left, that means 20 is ⅘ of the original number of balloons. 20/ ⅘ = 25 balloons. 25 x ⅕ =5, so Camila popped 5 balloons.

Ans: Camila popped 5 balloons.

Q27:

During soccer practice, Martha scores 4 goals. Manny scores ½ more than Martha. So, if Mark scores ½ of Martha and Manny's goals combined, how many goals did he score?

Q28:

A T-shirt originally sold for 20 dollars is now worth 4 dollars. Lana sees the short at the store and wants to buy it. How big of a discount would Lana receive ?

27a:

4 x (½ +1)= 4 x 3/2= 6, meaning Manny scored 6 goals. 4 plus 6 is 10, so Mark scored ½ of 10 goals. 10 x ½ = 5 goals.

Ans: 5 goals

28a:

4/20=⅕, so the shirt is worth 20% of its original price. 100%-20%=80%, meaning Lana received 80% off.
Ans: Lana received 80% off.

Q29:

In City A, a jug of milk costs $10. In City B, it costs 25% less. In City C, it costs 20% more. How much does a jug of milk cost in City C?

Q30: Challenge Problem

You are landscaping your backyard, which is a rectangular area of 25 meters by 30 meters. You want to create a flower bed in the shape of a rectangle, 10 meters by 15 meters, inside the backyard. You also plan to cover the remaining area of the backyard with grass, which costs $12 per square meter. After that, you plan to build a 2-meter-wide walkway around the flower bed. How much will the grass and walkway cost in total?

29a:

10 x (100%-25%)= 10 x 75%=$7.5. Then, we multiply that by (100%+20%). 7.5 x 1.2=$9

Ans: $9

30a: Challenge Problem

Area of the entire backyard:

- 25 • 30 = 750 square meters

2. Area of the flower bed:
   - 10 • 15 = 150 square meters
3. Area to be covered with grass:
   - 750 - 150 = 600 square meters
4. Cost of covering with grass:
   - 600 • 12 = 7,200 dollars
5. Area of the walkway:
   - The walkway surrounds the flower bed, with dimensions $(10+2\times2)\times(15+2\times2)=14\times19$
   - Area of the outer rectangle = 14 x 19 = 266 square meters
   - Area of the walkway = 266 - 150 = 116 square meters
6. Total cost of the walkway:
   - Walkway cost = 116 x 12 = 1,392 dollars
7. Total cost for grass and walkway:
   - 7,200 + 1,392 = 8,592 dollars