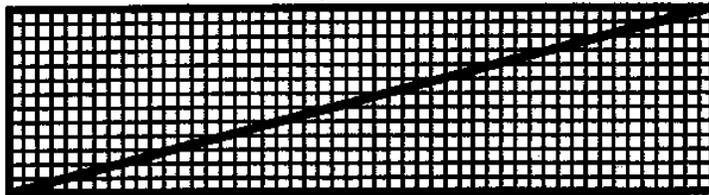


1. Alya's necklace broke. She found $\frac{1}{3}$ of the beads on the floor and $\frac{1}{4}$ on the couch. $\frac{1}{6}$ of the beads remained strung on the necklace, and 12 beads were never found. How many beads were originally on the necklace ? _____ 1

2. Two standard dice are rolled, a red one and a blue one. Let R be the number showing on the red die and B the number showing on the blue die. What is the probability that $R > 2B$? Write the answer as a common fraction. _____ 2

3. A thick hose can fill a swimming pool in 4 hours. A medium hose would fill the same pool in 6 hours, and it would take 12 hours for a thin hose to fill the pool. If all three hoses are used at the same time, how long would it take to fill the pool ? _____ 3

4. A 50×13 rectangle is divided into 1×1 squares by lines parallel to the sides



of the rectangle. A diagonal of the rectangle is drawn. How many of the 1×1 squares does the diagonal pass through ? _____ 4

Grade Five (5) Division

5. You have five playing cards: an ace, a king, a queen, a jack, and a ten. In how many different orders can you put the cards if the king and the queen are always next to each other ?

_____ 5

6. Find: $\frac{1}{3} + \frac{1}{4} + \frac{1}{5} + \frac{1}{6} + \frac{1}{7} =$

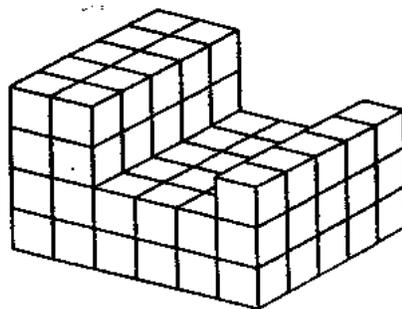
Express your answer as a common fraction.

_____ 6

7. The first number in a sequence is 2, and the second number is 3. Each new number is obtained by dividing the previous number by the one before that. (So the third number is $\frac{3}{2}$ and the fourth is $\frac{1}{2}$.) Find the tenth number in the sequence.

_____ 7

8. How many blocks are there in the pile ?



_____ 8

Grade Five (5) Division

9. An 800 meter long train travelling at 20 meters per second went into a tunnel. The front of the train emerged from the tunnel 90 seconds after the rear of the train entered the tunnel. Find the length of the tunnel, in meters.

_____ 9

10. Two cubical dice each have the numbers 1, 2, 4, 8, 16, and 32 written on their faces. The two dice are tossed. What is the probability that the total score is an odd number ?

_____ 10

11. In the multiplication shown below, $A, B, C, D,$ and E represent 5 different non-zero digits. What is the value of $C + E$?

$$\begin{array}{r} ABCB \\ \times \quad 5 \\ \hline DEDB \end{array}$$

_____ 11

12. Alex had three boxes of marbles. In the first box, 30% of the marbles were blue. There were twice as many marbles in the second box as in the first box, and 25% were blue in the second box. There were twice as many marbles in the third box as in the second box, and 20% were blue in the third box. Alex lost the third box. What percentage of his blue marbles did he lose ?

_____ 12