

※ You can receive 1.5 points each for problems number 1 to 30.

In problems 1-6, solve each question. Then add the quotient and the remainder as your answer. (For example, if the quotient is 5 and the remainder is 0, then the final answer is $5+0=5$. If the quotient is 12 and the remainder is 8, then the final answer is $12+8=20$.)

1.

$$6 \overline{) 96}$$

2.

$$7 \overline{) 87}$$

3.

$$29 \overline{) 281}$$

4.

$$43 \overline{) 343}$$

5.

$$71 \overline{) 597}$$

6.

$$34 \overline{) 3258}$$

In problems 7-13, calculate the answer.

7. $21 \times 4 \div (4 + 8)$

8. $9 + 28 \div 4 \times 3 - 6$

9. $(9 + 2) \times 4 - 25 \div 5$

10. $37 - 3 \times 8 \div 4$

11. $(76 - 58) \div 3 + 7 \times 8$

12. $8 \times 8 - 36 \div 9 \times 3 - 27$

13. $90 - 72 \div ((13 - 7) \times 4 - 6)$

In problems 14-16, solve each question. Then add all the numbers of different units. (For example, if the answer is 3(km, kg, L) 54(m, g, mL), then write the final answer as $3 + 54 = 57$.)

14.

$$\begin{array}{r} 8 \text{ km } 327 \text{ m} \\ - 5 \text{ km } 600 \text{ m} \\ \hline \end{array}$$

15.

$$\begin{array}{r} 6 \text{ kg } 700 \text{ g} \\ + 8 \text{ kg } 530 \text{ g} \\ \hline \end{array}$$

16.

$$\begin{array}{r} 11 \text{ L } 260 \text{ mL} \\ - 3 \text{ L } 890 \text{ mL} \\ \hline \end{array}$$

17. Express the following time in hours (A), minutes (B), and seconds (C), then find the sum of A, B, and C.

9697 seconds

In problems 18-19, solve each question. Then add all the numbers of different units. (For example, if the answer is 7hr 34min 23sec, then write the final answer as $7 + 34 + 23 = 64$.)

18.

$$\begin{array}{r} 3 \text{ hr } 48 \text{ min } 47 \text{ sec} \\ + 7 \text{ hr } 43 \text{ min } 38 \text{ sec} \\ \hline \end{array}$$

19.
$$\begin{array}{r} 6 \text{ hr } 15 \text{ min } 28 \text{ sec} \\ - 4 \text{ hr } 53 \text{ min } 49 \text{ sec} \\ \hline \end{array}$$

In problems 20-21, write each fraction into its simplest form. Then add the numerator and the denominator. (For example, if the answer is $\frac{2}{3}$, then write the final answer as $2+3=5$.)

20. $\frac{36}{90}$

21. $\frac{85}{153}$

In problems 22-27, solve each equation as a proper fraction or a mixed number in its simplest form. Then write the numerator. (For example, if the answer is $3\frac{10}{6}$, make $4\frac{2}{3}$ and write the final answer as 2.)

22. $7\frac{2}{7} - 3\frac{5}{7}$

23. $1\frac{9}{11} + \left(6\frac{2}{11} - 3\frac{10}{11}\right)$

24. $2\frac{5}{9} + 3\frac{8}{15}$

25. $3\frac{1}{4} - 1\frac{3}{5}$

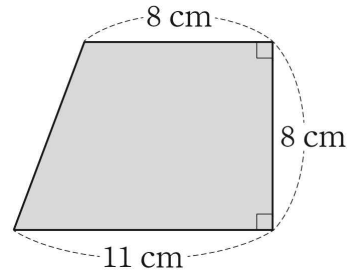
26. $2\frac{1}{3} \times 2\frac{5}{8}$

27. $3\frac{5}{9} \times \frac{15}{16} \div 1.2$

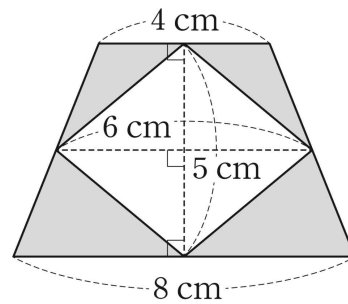
28. Solve the question. Then write the decimal part as your answer. (For example, if the answer is 18.2 or 18.20, then write the final answer as 2. If the answer is 2.54 or 2.054, then write the final answer as 54.)

12.2 - 7.56

29. Find the area of the trapezoid.

 cm²

30. Find the area of the shaded section.

 cm²

※ You can receive 2.0 points each for problems number 31 to 40.

- 31.** It takes 25 grams of cocoa to make one cup of cocoa. How many cups of cocoa can be made with 675 grams of cocoa?

_____ cups of cocoa

- 32.** A roll of paper towel is 323 cm long. If it takes 34 cm of the paper towel to clean one plate, how many plates can be cleaned with the roll?

_____ plates

- 33.** There are 44 students in Helen's class. If there are 8 students in each team, find the number of teams and the number of students that are left over. Add these two numbers together to make your answer.

- 34.** Frank bought 4 dolls that cost \$10 for 2 dolls and 8 model airplanes that cost \$9 for 3. Find how much change Frank should receive if he paid with a \$50 bill.

\$ _____

- 35.** Sophia walked from her house to the park. When she went to the park it took 2 hours 47 minutes and 30 seconds, and when she went back home it took 1 hour 18 minutes and 45 seconds. How much time did Sophia spend walking? Write your answer in hr/min/sec and then add all the numbers. (For example, if the answer is 7hr 34min 23sec, then write as $7 + 34 + 23 = 64$.)

- 36.** Grace, Jill, and Jun are throwing a volleyball. Grace threw the ball $\frac{59}{7}$ m, Jill threw the ball $8\frac{5}{7}$ m, and Jun threw the ball $\frac{64}{7}$ m. What is the shortest distance that the ball was thrown? Write down the sum of the denominator and numerator of the mixed number in its simplest form. (For example, if the answer is $4\frac{2}{3}$, write down as $3 + 2 = 5$.)

- 37.** Bethany's mother made a grain mix with $3\frac{3}{5}$ kg of rice and $\frac{14}{5}$ kg of barley. Bethany's family used $1\frac{2}{5}$ kg of this mixed grain. How many kilograms of mixed grain are left?

_____ kg

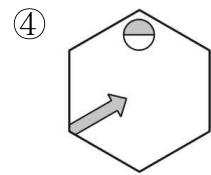
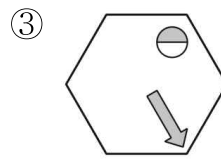
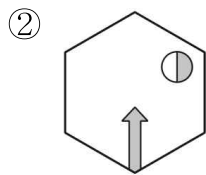
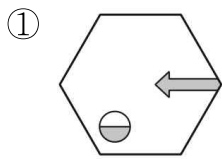
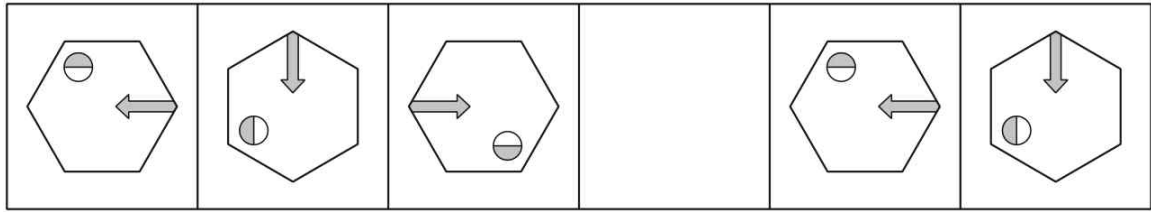
- 38.** Henry brought 3.72L of water. If he drank 1.95 L, how much water is left? Write down only the decimal part of the answer. (For example, if the answer is 6.75L write down only 75.)

- 39.** Lucy studied $3\frac{1}{7}$ hours and Mary studied $1\frac{4}{5}$ hours. How much more did Lucy study than Mary. Express the time in the format of $A\frac{C}{B}$ hours and find the value of $A+B+C$. (Note that $\frac{C}{B}$ is an irreducible fraction.)

- 40.** Oscar planted flowers in a triangle shaped garden that has a base of 1.5 m and a height of $5\frac{1}{3}$ m. What is the area of the garden?

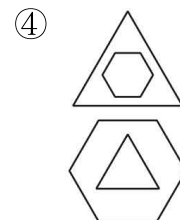
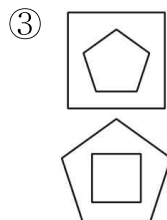
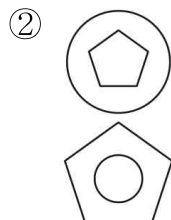
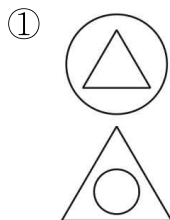
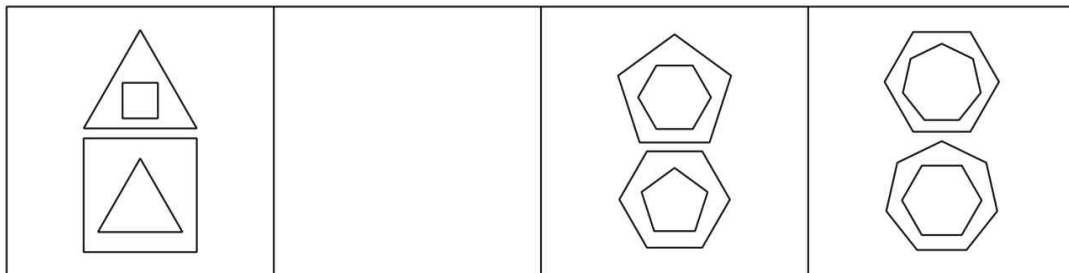
_____ m²

41. Which of the following figures should go in the blank box to complete the pattern? [2.3 points]



Answer : _____

42. Look at the pattern of the figures below. Which figure belongs in the second box? [2.3 points]



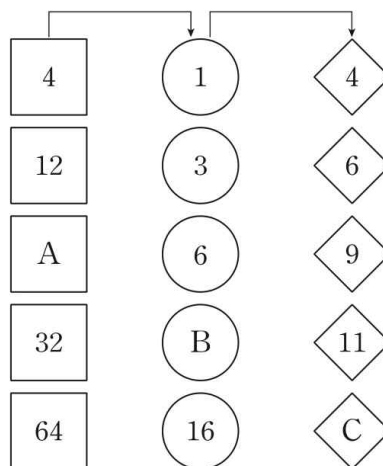
Answer : _____

43. The sum of the two numbers \bigcirc and \star is 11, and the product of these numbers is 24. Find the difference between \bigcirc and \star . [3.3 points]

$$\begin{aligned} \bigcirc + \star &= 11 \\ \bigcirc \times \star &= 24 \end{aligned}$$

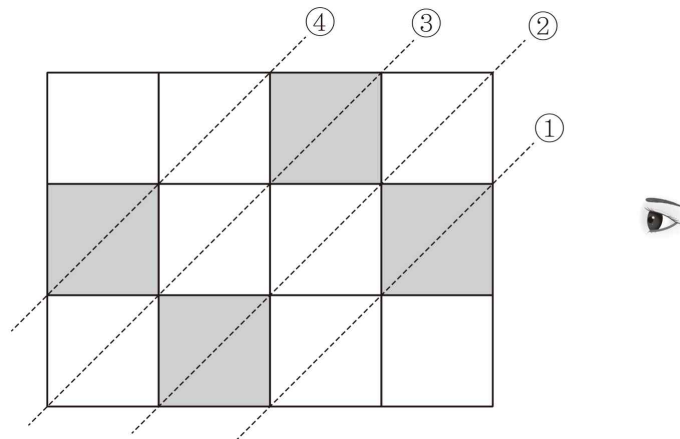
Answer : _____

44. Three numbers in each row are arranged according to certain rule. Find the sum of the numbers A, B, and C? [3.3 points]



Answer : _____

45. Where would you place the mirror in order to see 7 colored squares? [3.3 points]



Answer : _____

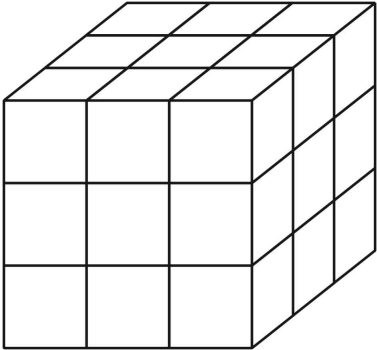
46. A part of a calendar page is shown below. If you sum four date of above, below, right, and left date of today' date, you get 52. Find today's date.

[3.3 points]

Sun	Mon	Tue	Wed	Thur	Fri	Sat
					1	2
3	4					

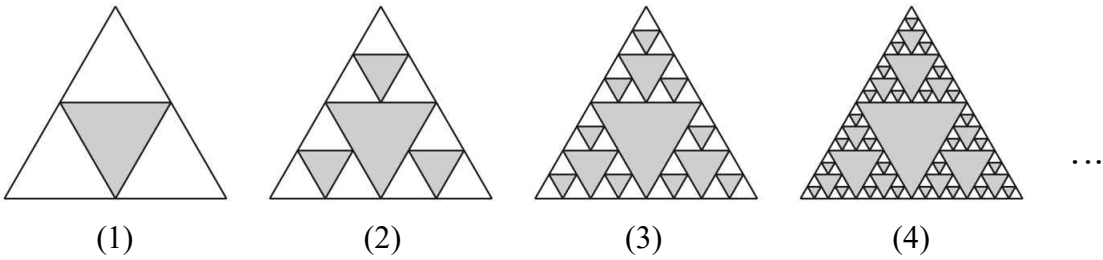
Answer : _____

47. Patrick painted a wooden block including the bottom, and then he cut it into 27 pieces as below. How many pieces have exactly 2 painted faces? [4.3 points]



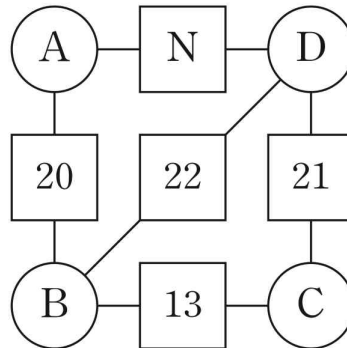
Answer : _____

48. The following figures were colored in a certain pattern. How many triangles should be colored in the figure (5)? [4.3 points]



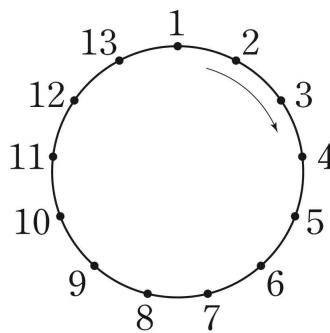
Answer : _____

49. The number in each \square on the line is the sum of the two numbers in the \circ on either side. Find the value of N in the following. [4.3 points]



Answer : _____

50. There are 13 dots on a circle numbering from 1 to 13. First you erase 1. You skip 2 and erase 3. Then, you skip 4 and erase 5. Following this method, you skip one number and then erase the next number in the clockwise direction. When only one number is left, what is that number? [4.3 points]



Answer : _____