1. Complete each number pattern below.
   (a) 1, 2, 4, 5, 7, 8, ( ), ( ), ...  
   (b) 3, 4, 7, 12, 19, ( ), ( ), ...  
   (c) 2, 3, 5, 8, 12, ( ), ( ), ...  
   (d) 2, 3, 5, 8, 13, ( ), ( ), ...  

2. A lesson starts at 8.10 am. It lasts for 1 hour 10 minutes. At what time does the lesson end?

3. Given that A and B are two different single digit numbers, find the values of A and B in each of the following.
   (a) \[ \begin{array}{c}
   \times \ A \\
   4 \ B \\
   \end{array} \]
      \[ \begin{array}{c}
   A = ( ) \\
   B = ( ) \\
   \end{array} \]
   (b) \[ \begin{array}{c}
   \times \ B \\
   3 \ A \\
   \end{array} \]
      \[ \begin{array}{c}
   A = ( ) \\
   B = ( ) \\
   \end{array} \]

4. Find the number of cubes in the figure below.

5. The sum of two numbers is 16. The difference between the two numbers is 2. Find the two numbers.

6. Complete each number pattern below.
   (a) 2, 4, 7, 9, 12, ( ), ( ), ...  
   (b) 3, 6, 12, 24, 48, ( ), ( ), ...  
   (c) 1, 1, 2, 3, 5, ( ), ( ), ...  
   (d) 1, 2, 3, 6, 7, ( ), ( ), ...  

7. The movie started at 2.10 pm. It finished at 3.50 pm. How long was the movie?

8. Given that A and B are two different single digit numbers, find the values of A and B in each of the following.
   (a) \[ \begin{array}{c}
   \times \ B \\
   2 \ B \\
   \end{array} \]
      \[ \begin{array}{c}
   A = ( ) \\
   B = ( ) \\
   \end{array} \]
   (b) \[ \begin{array}{c}
   \times \ 8 \\
   \ B \ 0 \\
   \end{array} \]
      \[ \begin{array}{c}
   A = ( ) \\
   B = ( ) \\
   \end{array} \]
9. Find the number of cubes in the figure below.

10. Sarah has 80 more marbles than Polly. They have 400 marbles altogether. How many marbles does each of them have?

11. Find the missing numbers.

12. What is the sum of all the numbers on the clock?

13. Given that A and B are two different single digit numbers, find the values of A and B in each of the following.

14. Find the number of cubes in the figure below.

15. Molly scores a total of 194 marks in two tests. The score for the second test is 4 marks more than that of the first test. How many marks does she score in each test?

16. Find the missing numbers.

17. Divide the clock below into halves by drawing a straight line so that the sum of all the numbers for each part is equal.

18. A, B, C and D represent 5, 6, 7 and 8, but not in that order. If $A \times B = CD$, find the values of A, B, C and D.

\[
\begin{align*}
A &= ( \quad ) \\
B &= ( \quad ) \\
C &= ( \quad ) \\
D &= ( \quad )
\end{align*}
\]
19. Find the number of cubes in the figure below.

20. Penny has 14 pencils. When she gives Jane 2 pencils, both of them have the same number of pencils. How many pencils does Jane have at first?

21. Complete each number pattern.
   (a) 6, 3, 8, 5, 10, 7, ( ), ( ), ...
   (b) 1, 3, 9, 27, ( ), ( ), ( ), ...
   (c) 4, 5, 7, 11, 19, ( ), ( ), ...
   (d) 1, 4, 9, 16, 25, ( ), ( ), ( ), ...

22. Draw the minute and hour hands on the last clock.

23. Given that \(2 \times A = 8\), \(A + B = 14\) and \(B + B + C = 25\), find the values of \(A\), \(B\) and \(C\).
   \(A = ( )\)
   \(B = ( )\)
   \(C = ( )\)

24. Many small cubes are used to make a big cube as shown below. The centre of the big cube is hollow. Find the total number of small cubes.

25. Jeffrey saves $300. His brother, James, saves $220. How much money must Jeffrey give to his brother so that both of them will have the same amount of money?

26. Find the missing numbers in the following Triangular Number Pattern.
   
   \[
   \begin{array}{ccc}
   & 1 & \\
   2 & 3 & 6 & 9 \\
   4 & ( ) & 12 & 16 \\
   5 & ( ) & ( ) & 20 & ( ) \\
   6 & ( ) & ( ) & 24 & ( ) & ( ) \\
   \end{array}
   \]

27. Draw the hour and minute hands on the third clock. Then find the difference in time and write the correct answers.
   \[
   ( ) \text{ h } 45 \text{ min } ( )
   \]
28. If \( a \times b = 24 \),
\( b \times c = 30 \),
\( c \times d = 35 \),
find \( a + b + c + d \).

29. Find the number of cubes in the figure below.

30. A strawberry and a peach weigh 120 g. The weight of the peach is thrice that of the strawberry. How much does each fruit weigh?

31. Find the missing numbers.

32. Sam can tell the time on each clock from the mirror. Can you do so?

33. \( A \times B = 63 \)
\( B \times C = 42 \)
\( A \times B \times C = ( \quad ) \)

34. Find the number of cubes in the figure below.

35. Two different cups weigh 320 g. The weight of the bigger cup is four times that of the other. How heavy is each cup?

36. Find the missing numbers.

37. By drawing two straight lines, divide the clock into three parts so that the sum of all the numbers on each part is the same.

38. Find the value of each letter.

\[
\begin{align*}
\text{(a)} & & A & & A & & \text{A} & & B \\
& & + & & A & & \quad 9 & & 6 \\
& & \quad & & \quad & & \quad & & 1 & \quad C & \quad A \\
A &= ( \quad ) & & A &= ( \quad ) \\
B &= ( \quad ) & & C &= ( \quad )
\end{align*}
\]
1. (a) 1, 2, 4, 5, 7, 8, (10), (11), ...  
+1 +2 +1 +2 +1 +2 +1  
(b) 3, 4, 7, 12, 19, (28), (39), ...  
+1 +3 +5 +7 +9 +11  
(c) 2, 3, 5, 8, 12, (17), (23), ...  
+1 +2 +3 +4 +5 +6  
(d) 2, 3, 5, 8, 13, (21), (34), ...  

2. 8.10 am 9.10 am 10 min  
1 h after 8.10 am is 9.10 am.  
10 min after 9.10 am is 9.20 am.  
The lesson ends at 9.20 am.  

3. (a) A is multiplied by itself to give a number greater than 40.  
Since 7 × 7 = 49,  
A = 7 and B = 9.  
(b) Since A and B are different 1-digit numbers and their product is less than 40, the possible values of A and B are 5 and 7 respectively.  
A × B = 3A  
5 × 7 = 35  
A = 5 and B = 7  

4.  
9 cubes 3 cubes  
Number of cubes = 9 + 3 = 12  

5.  
smaller number greater number  
16 – 2 = 14  
14 – 2 = 7  
The smaller number is 7.  
7 + 2 = 9  
The greater number is 9.  

6. (a) 2, 4, 7, 9, 12, (14), (17), ...  
+2 +3 +2 +3 +2 +3  
(b) 3, 6, 12, 24, 48, (96), (192), ...  
×2 ×2 ×2 ×2 ×2 ×2  
(c) 1, 1, 2, 3, 5, (8), (13), ...  
+ + + + + +  
(d) 1, 2, 3, 6, 7, (14), (15), ...  
+ + + + + +  

7. 2.10 pm 3.10 pm 3.50 pm  
From 2.10 pm to 3.10 pm, it is 1 h.  
From 3.10 pm to 3.50 pm, it is 40 min.  
The movie was for 1 h 40 min long.  

8. (a) Since the product is less than 30, the possible values of A and B are 6 and 4 respectively.  
A × B = 2B  
6 × 4 = 24  
A = 6 and B = 4  
(b) A × 8 = 80  
5 × 8 = 40  
A = 5 and B = 4  

9.  
8 cubes 3 cubes 1 cube  
Number of cubes = 8 + 3 + 1 = 12  

10.  
Sarah ? 80  
Polly ? 400  
400 – 80 = 320  
320 ÷ 2 = 160  
Polly has 160 marbles.  
160 + 80 = 240  
Sarah has 240 marbles.  

11.  
3 + 7 = 10 = 5 + 5  
4 + 8 = 12 = 6 + 6  
7 + 9 = 16 = 8 + 8  

12.  
1 + 2 + 3 + 4 + 5 + 6 + ... + 11 + 12  
There are 6 pairs of 13.  
6 × 13 = 78  
The sum of all the numbers on the clock is 78.  

13. (a)  
| 8 | 9 | 8 | 0  
| 7 | 2 | 3 | 5  
| 8 | 5 |   
A = 9  
B = 8  
(b)  
| 5 | 7 | 4 | 0  
| 3 | 5 |  
| 8 | 5 |  
A = 7  
B = 5  

14.  
5 cubes 3 cubes 2 cubes  
Number of cubes = 5 + 3 + 2 = 10  

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