



Patterns and Early Algebra

- 1 Find the number that balances the equation

$$23 + 14 = ? + 28$$

A 8	B 12	C 11
D 9	E 7	F 0

- 2 Find the number that balances the equation

$$17 + 9 = 5 + 17 + ?$$

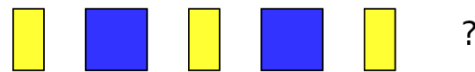
A 0	B 4	C 40
D 20	E 3	F 2

- 3 Find the number that balances the equation

$$29 - 12 = 27 - ?$$

A 10	B 14	C 1
D 8	E 12	F 9

- 4 Find the item that would be next in this pattern



A 
B 

- 5 What is the missing value in the table?

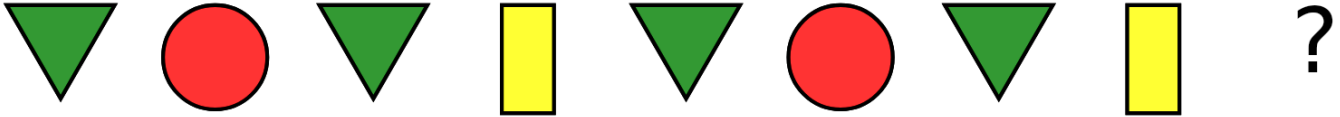
Input	Output
3	1
4	2
10	?
12	10
14	12

A	8
B	15
C	20
D	1

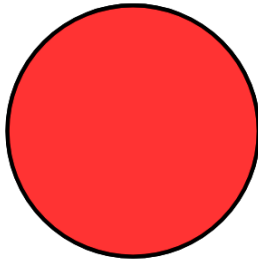


Patterns and Early Algebra

6 Find the item that would be next in this pattern



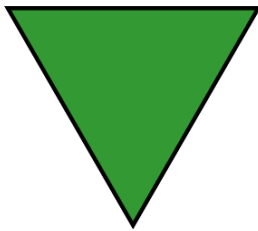
A



B



C



7 Choose the rule that describes this pattern



A lemon,
pear,
then
repeat

B watermelon,
orange,
apple, then
repeat

8 Choose the rule that describes this pattern



A soccer,
football,
then
repeat

B baseball,
badminton,
football,
then repeat

9 Choose the rule that describes this pattern



A lemon,
apple,
lemon, then
repeat

B apple,
lemon,
lemon,
apple, then
repeat

10 What are the next 3 numbers in the pattern, skip counting upwards by 3

0, 3, 6, __, __, __

A 10, 13, 16

B 9, 11, 13

C 10, 12, 14

D 8, 11, 14

E 9, 12, 15

F 10, 14, 18



Patterns and Early Algebra

11 What rule turns each input into its output?

Input	Output
2	10
3	15
4	20
8	40
9	45

A

divide by 5

B

subtract 1

C

multiply by 5

D

subtract 10

12 What rule turns each input into its output?

Input	Output
9	1
18	2
27	?
36	4
63	7

A

multiply by 4

B

divide by 10

C

divide by 9

D

add 6



Patterns and Early Algebra

13 What rule turns each input into its output?

Input	Output
7	?
9	10
11	12
13	14
14	15

A

add 4

B

add 3

C

add 1

D

subtract 11

14 What are the next 3 numbers in the pattern, skip counting upwards by 10

60, 70, 80, __, __, __

A 80, 90, 100

B 100, 120, 140

C 90, 100, 110

D 90, 110, 130

E 100, 110, 120

15 What are the next 3 numbers in the pattern, skip counting upwards by 5

0, 5, 10, __, __, __

A 15, 20, 25

B 16, 21, 26

C 15, 21, 27

D 14, 19, 24

E 16, 22, 28

F 15, 19, 23

16 Find the term that would be next in this repeating pattern

1, 1, 1, 6, 1, 1, 1, 6, 1, 1, 1, 6, ?

A

6

B

1

17 Find the term that would be next in this repeating pattern

9, 7, 9, 7, 9, 7, ?

A

9

B

7



Patterns and Early Algebra

18 Find the item that would be next in this pattern



- A 
- B 

19 Which numbers follow this pattern rule?

Start at 23 and subtract 5 for each term

A 1, 2, 3, 5, 8, 13

B 23, 18, 13, 8

20 Choose the first values that this pattern rule would create

Start at 2 and add 4 for each term

A 2, 8, 32, 128

B 2, 7, 12, 17

C 2, 9, 16, 23

D 2, -2, -6, -10

E 2, 6, 10, 14

F 2, 8, 14, 20

21 Find the item that would complete this growing pattern in the missing space



- A 
- B 

22 Find the term that would be next in this increasing pattern

1, 4, 7, 10, ?

A 14

B 13

C 9

D 19

E 17

F 15

23 Is this number even or odd

7

A Odd

B Even

24 Is this an even or odd number of bananas?



A Odd

B Even

25 Add 10 to this number

73 + 10

A 138

B 55

C 221

D 0

E 28

F 83





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28 Add 10 to this number

$$\begin{array}{r} 39 \\ +10 \\ \hline \end{array}$$

A	B	C
65	131	33
D	E	F
82	49	16

29 Subtract 10 from this number

$$83 - 10$$

A	B	C
146	170	73
D	E	F
195	24	0

30 Subtract 10 from this number

$$\begin{array}{r} 74 \\ -10 \\ \hline \end{array}$$

A	B	C
85	43	171
D	E	F
64	107	128

31 Find the term that would complete this repeating pattern in the missing space
?, 6, 2, 6

?



1

2

3

4

A	2
B	6

32 Find the term that would be next in this repeating pattern
3, 6, 3, ?



1

2

3

4

?

A	6
B	3

33 Find the number that balances the equation

$$2 + 5 = 1 + ?$$

A	B	C
4	5	6
D	E	F
2	9	40

34 Find the number that balances the equation

$$9 - 5 = 1 + ?$$

A	B	C
40	6	10
D	E	F
2	7	3

35 Solve for the missing value

$$10 + ? = 24$$

A	B	C
7	14	18
D	E	F
5	23	15



Patterns and Early Algebra

36 Solve for the missing value
 $? - 16 = 75$

A 73	B 82	C 109
D 91	E 67	F 106

37 Solve for the missing value
 $100 - ? = 27$

A 79	B 81	C 65
D 75	E 77	F 73

38 What number can be put in the circle to make this equation correct?

$$\bigcirc + 5 = 13$$

A $\bigcirc = 10$	B $\bigcirc = 7$
C $\bigcirc = 8$	D $\bigcirc = 5$
E $\bigcirc = 6$	F $\bigcirc = 9$

39 Solve for the missing value
 $23 + ? = 60$

A 22	B 31	C 16
D 46	E 10	F 37

40 Find the equation that best represents this sentence
y subtracted from twelve is equal to t

A $y + t = 12$	B $y - 12 = t$
C $t - 12 = y$	D $12 \times t = y$
E $12 + t = y$	F $12 - y = t$