



Patterns and Early Algebra

1 Find the number that balances the equation

$$3 + 4 = ? + 3$$

A 1	B 0	C 8
D 3	E 4	F 6

2 Solve for the missing value

$$? + 1 = 2$$

A 1	B 7	C 8
D 4	E 9	F 3

3 Solve for the missing value

$$2 + ? + 2 = 5$$

A 5	B 10	C 8
D 3	E 9	F 1

4 Solve for the missing value

$$? - 7 = 1$$

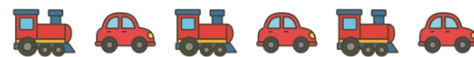
A 9	B 11	C 8
D 13	E 10	F 1

5 Find the number that balances the equation

$$8 - 3 = 9 - ?$$

A 8	B 5	C 1
D 4	E 3	F 0

6 Choose the rule that describes this pattern



A bike,
plane,
car, then
repeat

B train,
car,
then
repeat

7 Choose the rule that describes this pattern



A sandwich,
fish,
hamburger,
then repeat

B pizza,
hamburger,
salad,
fries, then
repeat

8 Choose the rule that describes this pattern



A lemon,
apple,
lemon, then
repeat

B apple,
lemon,
lemon,
apple, then
repeat



Patterns and Early Algebra

9 What is the missing value in the table?

Input	Output
4	9
5	?
11	16
12	17
15	20

A

15

B

1

C

7

D

10

10 Choose the rule that describes this increasing pattern

2, 8, 14, 20, 26

A Start at 2 and add 3 for each term

B Start at -1 and add 6 for each term

C Start at 0 and add 6 for each term

D Start at 2 and subtract 6 for each term

E Start at 2 and add 6 for each term

F Start with 2 and 8. Add the prior two terms for each subsequent term

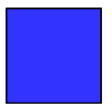
11 Find the item that would be next in this growing pattern



A



B



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

80, 90, 100, __, __, __

A 120, 130, 140

B 110, 120, 130

C 100, 110, 120

D 120, 140, 160

E 110, 130, 150

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

2, 6, 10, ?

A 20

B 10

C 18

D 14

E 9

F 13



Patterns and Early Algebra

14 What number belongs in the circled spot?

Numbers to 100									

A

61

B

52

C

53

D

41

15 What is the next number in the pattern, skip counting upwards by 10

90, 100, 110, __

A

110

B

130

C

120

16 Skip count upwards by 10

60, 70, 80, 90, __, __

A

90, 100

B

100, 110

C

100, 120

D

110, 130

E

110, 120

17 Skip count upwards by 2

6, 8, 10, 12, __, __

A

15, 17

B

14, 15

C

14, 16

D

14, 17

E

15, 16

F

13, 15

18 Skip count upwards by 2

2, 4, 6, 8, __, __

A

10, 13

B

11, 14

C

11, 13

D

10, 11

E

11, 12

F

10, 12



Patterns and Early Algebra

19 What is the next number in the pattern, skip counting upwards by 5

40, 45, 50, __

A 54

B 55

C 56

20 Skip count upwards by 5

25, 30, 35, 40, __, __

A 45, 49

B 45, 51

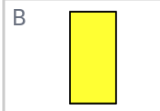
C 44, 49

D 45, 50

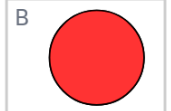
E 46, 52

F 46, 50

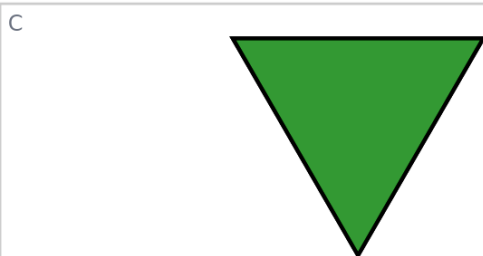
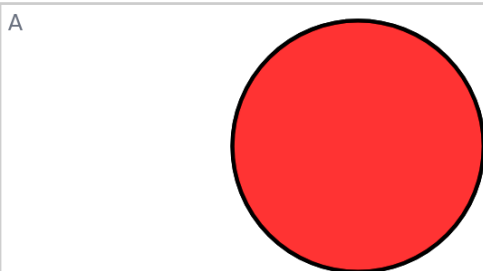
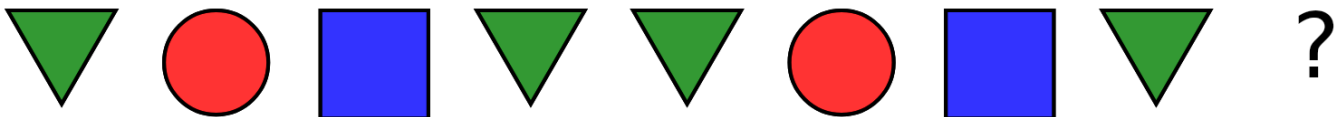
21 Find the item that would be next in this pattern



22 Find the item that would be next in this pattern



23 Find the item that would be next in this pattern





Patterns and Early Algebra

24 What rule turns each input into its output?

Input	Output
4	0
8	4
11	7
12	8
15	11

A

subtract 10

B

subtract 6

C

add 8

D

subtract 4

25 What rule turns each input into its output?

Input	Output
5	?
6	1
14	9
15	10
16	11

A

subtract 5

B

subtract 10

C

subtract 4

D

subtract 12



Patterns and Early Algebra

26 Which numbers follow this pattern rule?

Start at 3 and add 5 for each term

A 3, 8, 13, 18

B 1, 2, 4

27 What are the next 3 numbers in the pattern, skip counting upwards by 6

6, 12, 18, __, __, __

A 24, 31, 38

B 25, 31, 37

C 25, 32, 39

D 24, 29, 34

E 25, 30, 35

F 24, 30, 36

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

3, 4, 4, 3, 3, 4, 4, 3, 3, 4, 4, 3, 3, ?

A 4

B 3

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

3, 6, 9, 12, ?

A 14

B 15

C 17

D 21

E 18

F 19

31 Is this number even or odd

4

A Even

B Odd

32 Is this an even or odd number of parrots?



A Even

B Odd

33 Find the term that would complete this repeating pattern in the missing space
?, 5, 8, 5

?



A 8

B 5





Patterns and Early Algebra

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

2, 9, 1, 2, 9, 1, 2, 9, 1, ?

A

9

B

2

C

1

37 Find the number that balances the equation

$$1 + 1 = ? - 5$$

A

2

B

8

C

5

D

1

E

9

F

7

38 Solve for the missing value

$$? + 7 = 8$$

A

3

B

6

C

8

D

1

E

5

F

7

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

$$\bigcirc - 5 = 1$$

A

$$\bigcirc = 4$$

B

$$\bigcirc = 6$$

C

$$\bigcirc = 5$$

D

$$\bigcirc = 3$$

E

$$\bigcirc = 7$$

F

$$\bigcirc = 8$$

40 Solve for the missing value

$$? + 2 = 3$$

A

4

B

2

C

9

D

1

E

5

F

7