Patterns Practice (Demo Version)

Read each question carefully. Please show your work to receive credit for each problem. Check your answers.

1)

Aaron used a rule to make the number pattern shown below.

100,000, 10,000, 1,000, 100, 10

Which of the following uses the same rule?

A) 100,000, 99,000, 98,000, 97,000, 96,000

B) 50, 40, 30, 20, 10

C) 500,000, 50,000, 5,000, 500, 50

D) 5,000, 4,000, 3,000, 2,000, 1,000

2)

Cameron used a rule to make the number pattern shown below.

1, 5, 25, 125, 625

Which of the following uses the same rule?

A) 2, 10, 50, 250, 1,250

B) 2, 10, 18, 26, 34

C) 2, 5, 25, 250, 2,500

D) 2, 10, 12.5, 125, 1,250

3)

Jackson used a rule to make the number pattern shown below.

100, 90, 80, 70, 60

Which of the following uses the same rule?

A) 10, 9, 8, 7, 6

B) 100, 95, 90, 85, 80

C) 55, 45, 35, 25, 15

D) 6, 15, 24, 33, 42

4)

Issac used a rule to make the number pattern shown below.

4, 8, 12, 16, 20

Which of the following uses the same rule?

A) 4, 8, 16, 32, 64

B) 2, 7, 12, 17, 23

C) 2, 6, 10, 14, 18

D) 4, 6, 8, 10, 12

5)   Which rule is used in this model?

Input	Output
2	14
12	24
23	35

A) add 10

B) add 12

C) multiply by 2

D) multiply by 7

6)   Which rule is used in this model?

Input	5	10	15	20
Output	15	20	25	30

A) Add 10.

B) Subtract 10.

C) Multiply by 10.

D) Divide by 10.

7) Which rule is used in this model?

Input	5	10	15	20
Output	10	15	20	25

A) Add 5.

B) Subtract 5.

C) Multiply by 5.

D) Divide by 5.

8) Which rule is used in this model?

Input	1	2	3	4
Output	10	20	30	40

A) Add 9.

B) Subtract 10.

C) Multiply by 10.

D) Divide by 10.

9)

Rhea used the same rule on each number in column A to change it to a different number, which is shown in column B.

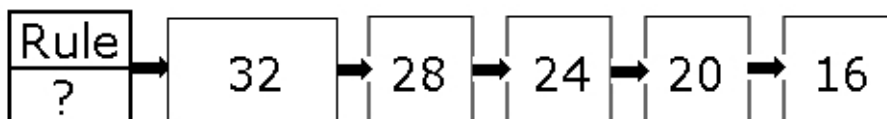Which of the following was the rule Rhea used?

Rhea's Number Table

Column A	Column B
1	12
3	36
5	60
7	84
9	108

A) add 55 to the input

B) multiply the input by 10

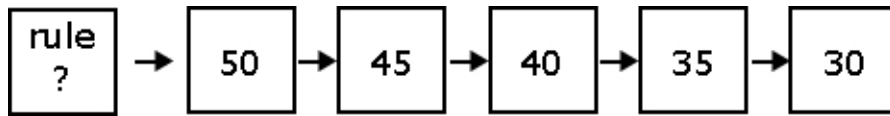C) multiply the input by 12

D) subtract 88 from the input

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10) Joann has a function machine. Which rule does the function machine use?

| Rule ? | → | 32 | → | 28 | → | 24 | → | 20 | → | 16 |

A) add 4

B) subtract 4

C) multiply by 4

D) divide by 4

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11) What rule is used in this model?

| rule ? | → | 50 | → | 45 | → | 40 | → | 35 | → | 30 |

A) Add 5.

B) Subtract 5.

C) Subtract 10.

D) Multiply by 5.

12) What is the pattern of the numbers?

18, 15, 12, 9, 6, 3

A) divide by 3

B) multiply by 3

C) add 3

D) subtract 3

13) What is the pattern of the numbers?

90, 80, 70, 60, 50, 40, 30, 20, 10, 0

   A) multiply by 10

   B) divide by 10

   C) subtract 10

   D) add 10

14) Which of the following rules could be used to make the pattern shown below?

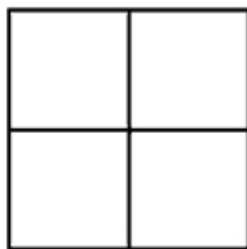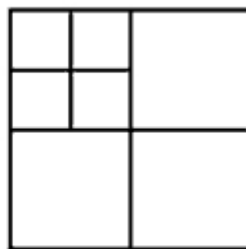Figure 1   Figure 2   Figure 3

   A) Add one more square each time.

   B) Divide each square into 4 smaller squares.

   C) Divide one square into 4 smaller squares.

   D) Divide two squares into 4 smaller squares.

15) May used a rule to combine the numbers in column A and column B to get the number in column C.

Which of the following was most likely the rule May used?

A	B	→	C
1	1	→	1
2	2	→	1
3	3	→	1
4	4	→	1
5	5	→	1

A) Add the number in column A to the number in column B.

B) Subtract the number in column B from the number in column A.

C) Multiply the number in column A by the number in column B.

D) Divide the number in column A by the number in column B.

16) Which answer has the same pattern as the pattern below?

100, 50, 25, 12.5

A) 80, 40, 20, 10, 5

B) 5, 10, 20, 40, 80

C) 2, 4, 8, 16, 32

D) 222, 22, 2

17) Which answer has the same pattern as the pattern below?

2, 10, 50, 250

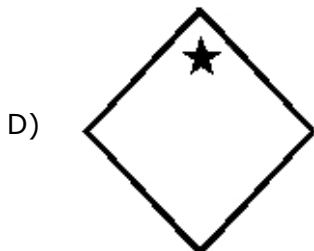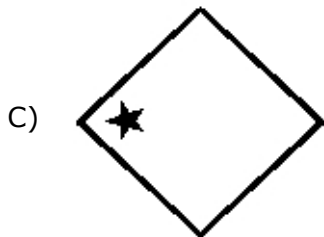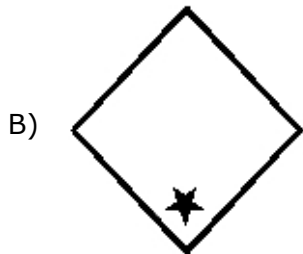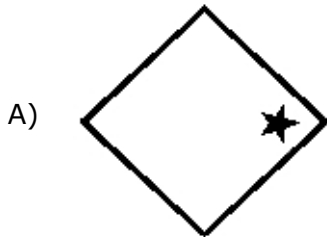A) 1, 0, 3

B) 5, 25, 125

C) 4, 2, 8, 1

D) 500, 499, 322
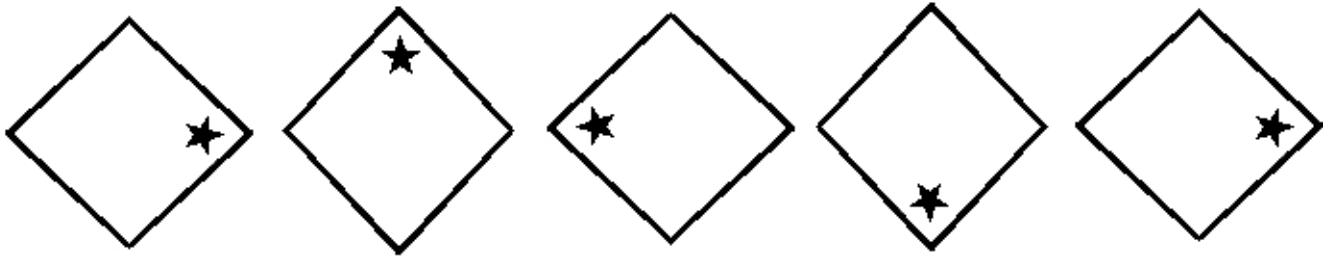
18) Which answer has the same pattern as the pattern below?

24, 20, 16, 12

A) 12, 8, 4

B) 20, 5, 1

C) 7, 3, 3, 2

D) 16, 12, 8, 1

19) Which picture comes next in the pattern?

A)

B)

C)

D)

20) What is the next number in the pattern?

1, 4, 7, 10, 13, 16, _____

A) 17

B) 18

C) 19

D) 20

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21) If the pattern continues in the same way, which of the following rules can be used to find the next number in the number pattern?

1, 4, 8, 11, 22, 25, 50, 53, 106...

A) Add 3, then multiply by 2.

B) Add 2, then multiply by 2.

C) Add 3, then multiply by 3.

D) Multiply 2 by the previous number every time.

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22) Which number is missing in the pattern?

100 90 80 70 60 __ 40

 A) 40

 B) 41

 C) 50

 D) 61

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23) Which animal is missing in the pattern?

monkey   lion   lion   lion   monkey   lion   ?   lion

 A) giraffe

 B) lion

 C) turtle

 D) monkey

Patterns Practice (Demo Version)

24) Which pattern is the same as the pattern below?

5989598959895989

    A) AB

    B) ABCB

    C) ABCA

    D) ABBC

25) Which of these is an even number? 253, 352, 325, or 523?

26) Is 423 an odd an number or an even number?

27) What number does the y represent?

_____30_____y_____x_____x_____70

Patterns Practice (Demo Version)

Compare:

28) 437 O 374

_____

Compare:

29) 437 O 374

_____

Compare:

30) 896 O 968

_____

31) Use digits and a comparison symbol to write "eleven is less than fifteen."

_____

Compare:

32) 716 O 617

_____

33) Use the digits 7, 8, and 9 once each to make an even number greater than 800.

_____

34) What number does the y represent?

_____0_____x_____x_____x_____100_____x_____x_____y_____200

_____

35) _____-5_____x_____x_____y_____x_____0_____x_____x_____x_____x_____5

_____

36) Is the value of 4 nickels and 3 dimes an even number of cents or an odd number of cents?

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