Coded times table problem

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Coded times table problem

This is a coded times table. Look at the calculations. Can you work out what each letter represents?

C x B = FB

F x B = GK

D x B = FK

A x B = JB

G x B = JK

B x B = GB

H x B = AB

J x B = B

E x B = AK

C x B = FB

B x B = GB

F x B = GK

H x B = AB

D x B = FK

J x B = B

A x B = JB

E x B = AK

G x B = JK

Notice that the products all end in B or K. Which tables end in this pattern?

C x B = FB

B x B = GB

F x B = GK

H x B = AB

D x B = FK

J x B = B

A x B = JB

E x B = AK

G x B = JK

It must be the five times table but where do we start?

C x B = FB

B x B = GB

F x B = GK

H x B = AB

D x B = FK

J x B = B

A x B = JB

E x B = AK

G x B = JK

5 x 5 = 25

C x B = FB

B x B = GB

F x B = GK

H x B = AB

D x B = FK

J x B = B

A x B = JB

E x B = AK

G x B = JK

5 x 5 = 25

C x B = FB

$$5 \times 5 = 25$$

F x B = GK

H x B = AB

D x B = FK

J x B = B

A x B = JB

E x B = AK

G x B = JK

C x **B** = F**5**

$$5 \times 5 = 25$$

F x **B** = **G**K

H x **B** = A**B**

D x **B** = FK

J x **B** = **B**

A x **B** = J**B**

E x **B** = AK

G x **B** = JK

Let's convert all the Bs to 5s and the Gs to 2s. Where does that take us?

C x **5** = F**5**

5 x **5** = **25**

F x **5** = **2**K

H x **5** = A**5**

D x **5** = FK

J x **5** = **5**

A x **5** = J**5**

E x **5** = AK

2 x **5** = JK

Now where do we go?

C x **5** = F**5**

5 x **5** = **25**

F x **5** = **2K**

H x **5** = A**5**

D x **5** = F**K**

J x **5** = **5**

A x **5** = J**5**

E x **5** = A**K**

2 x **5** = J**K**

We now know that the letter K must be 0

C x **5** = F**5**

  5 x **5** = **25**

F x **5** = **20**

  H x **5** = A**5**

D x **5** = F**0**

  J x **5** = **5**

A x **5** = J**5**

  E x **5** = A**0**

2 x **5** = J**0**

Now where do we go next?

C x **5** = F**5**

  5 x **5** = **25**

F x **5** = **20**

  H x **5** = A**5**

D x **5** = F**0**

  J x **5** = **5**

A x **5** = **J5**

  E x **5** = A**0**

2 x **5** = **J0**

J must be 1.

C x **5** = F**5**

$$5 \times 5 = 25$$

F x **5** = **20**

H x **5** = A**5**

D x **5** = F**0**

$$1 \times 5 = 5$$

A x **5** = **15**

E x **5** = A**0**

2 x **5** = **10**

Now where do we go next?

C x **5** = F**5**

$$5 \times 5 = 25$$

F x **5** = **20**

H x **5** = **A5**

D x **5** = F**0**

$$1 \times 5 = 5$$

3 x **5** = **15**

E x **5** = **30**

2 x **5** = **10**

If J is 1 then A must be 3.

C x **5** = F**5**

5 x **5** = **25**

F x **5** = **20**

H x **5** = **35**

D x **5** = F**0**

1 x **5** = **5**

3 x **5** = **15**

E x **5** = **30**

2 x **5** = **10**

Now where do we go next?

C x **5** = F**5**

5 x **5** = **25**

F x **5** = **20**

H x **5** = **35**

D x **5** = F**0**

1 x **5** = **5**

3 x **5** = **15**

E x 5 = **30**

2 x **5** = **10**

If A is 3 then E is 6 because 30 ÷ 5 = 6

C x **5** = F**5**

5 x **5** = **25**

F x **5** = **20**

H x **5** = **35**

D x **5** = F**0**

1 x **5** = **5**

3 x **5** = **15**

6 x **5** = **30**

2 x **5** = **10**

Now where do we go next?

C x **5** = F**5**

5 x **5** = **25**

F x **5** = **20**

H x **5** = **35**

D x **5** = F**0**

1 x **5** = **5**

3 x **5** = **15**

6 x **5** = **30**

2 x **5** = **10**

H must be 7 because 35 ÷ 5 = 7.

C x **5** = F**5**

$$5 \times 5 = 25$$

F x **5** = **20**

$$7 \times 5 = 35$$

D x **5** = F**0**

$$1 \times 5 = 5$$

3 x **5** = **15**

$$6 \times 5 = 30$$

2 x **5** = **10**

Now where do we go next?

C x **5** = **F5**

$$5 \times 5 = 25$$

4 x **5** = **20**

$$7 \times 5 = 35$$

D x **5** = **40**

$$1 \times 5 = 5$$

3 x **5** = **15**

$$6 \times 5 = 30$$

2 x **5** = **10**

F must be 4 because 20 ÷ 5 = 4.

C x **5** = **45**

$\qquad$ **5** x **5** = **25**

4 x **5** = **20**

$\qquad$ **7** x **5** = **35**

D x **5** = **40**

$\qquad$ **1** x **5** = **5**

3 x **5** = **15**

$\qquad$ **6** x **5** = **30**

2 x **5** = **10**

Now where do we go next?

C x **5** = **45**

$\qquad$ **5** x **5** = **25**

4 x **5** = **20**

$\qquad$ **7** x **5** = **35**

D x **5** = **40**

$\qquad$ **1** x **5** = **5**

3 x **5** = **15**

$\qquad$ **6** x **5** = **30**

2 x **5** = **10**

D must be 8 because 40 ÷ 5 = 8.

9 x **5** = **45**

5 x **5** = **25**

4 x **5** = **20**

7 x **5** = **35**

8 x **5** = **40**

1 x **5** = **5**

3 x **5** = **15**

6 x **5** = **30**

2 x **5** = **10**

Therefore, C must be 9 because 45 ÷ 5 = 9.