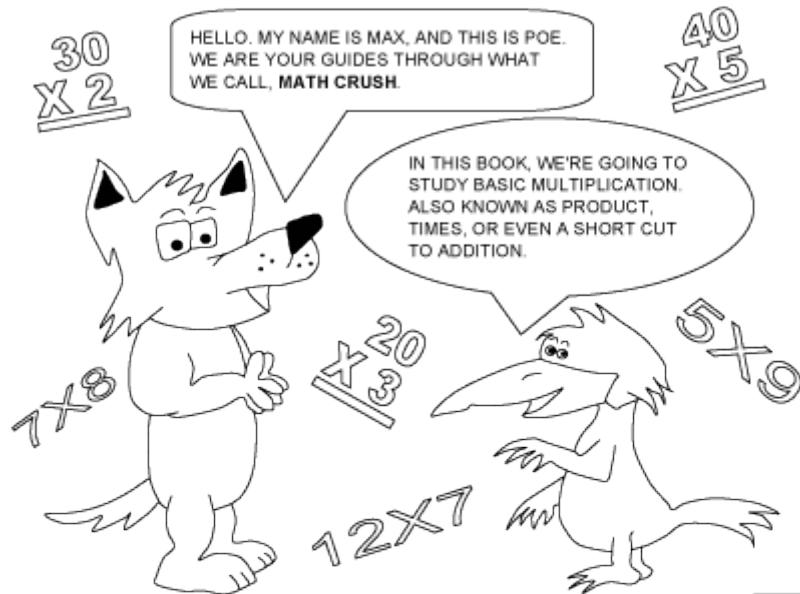


MULTIPLICATION - LEVEL 1



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MULTIPLICATION FACTS



BELOW IS A TABLE OF THE BASIC MULTIPLICATION FACTS.



ON PAGE 3 IS ANOTHER VERSION. AS YOU GET BETTER AT MULTIPLYING YOU MAY CHOOSE WHICH ONE YOU LIKE TO USE.

X	1	2	3	4	5	6	7	8	9	10	11	12	13
1	1	2	3	4	5	6	7	8	9	10	11	12	13
2	2	4	6	8	10	12	14	16	18	20	22	24	26
3	3	6	9	12	15	18	21	24	27	30	33	36	39
4	4	8	12	16	20	24	28	32	36	40	44	48	52
5	5	10	15	20	25	30	35	40	45	50	55	60	65
6	6	12	18	24	30	36	42	48	54	60	66	72	78
7	7	14	21	28	35	42	49	56	63	70	77	84	91
8	8	16	24	32	40	48	56	64	72	80	88	96	104
9	9	18	27	36	45	54	63	72	81	90	99	108	117
10	10	20	30	40	50	60	70	80	90	100	110	120	130
11	11	22	33	44	55	66	77	88	99	110	121	132	143
12	12	24	36	48	60	72	84	96	108	120	132	144	156
13	13	26	39	52	65	78	91	104	117	130	143	156	169

HOW TO USE TABLE

X	1	2	3	4	5	6
1	1	2	3	4	5	6
2	2	4	6	8	10	12
3	3	6	9	12	15	18
4	4	8	12	16	20	24
5	5	10	15	20	25	30
6	6	12	18	24	30	36

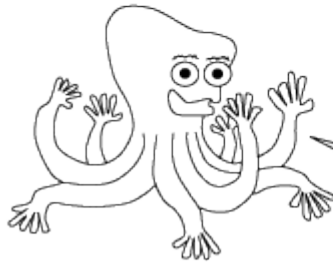
HERE IS A PIECE OF THE MULTIPLICATION TABLE. THE DARKER TOP AND SIDE NUMBERS ARE WHAT YOU ARE MULTIPLYING. SO IF I ASKED WHAT IS 3 X 4? YOU WOULD FIND WHERE 3 AND 4 CROSS, WHICH EQUALS 12. DO YOU SEE WHERE THEY CROSS IN ANOTHER PLACE?



VERY INTERESTING, YET QUITE SIMPLE. LET'S TRY ANOTHER ONE...HOW ABOUT 4 X 6? DO YOU SEE HOW THEY CROSS AT 24?



X	1	2	3	4	5
1	1	2	3	4	5
2	2	4	6	8	10
3	3	6	9	12	15
4	4	8	12	16	20
5	5	10	15	20	25
6	6	12	18	24	30
7	7	14	21	28	35



WOW. NOW I DON'T HAVE TO COUNT WITH MY FINGERS AND TOES.

BASIC REVIEW



THE BASICS

MULTIPLICATION IS A SHORT CUT TO ADDING.

- | | | | | | |
|-----|-----------|-------|-----|-----------|-------|
| 1. | $8 + 6 =$ | _____ | 2. | $9 + 7 =$ | _____ |
| 3. | $9 + 0 =$ | _____ | 4. | $4 + 1 =$ | _____ |
| 5. | $6 + 1 =$ | _____ | 6. | $7 + 5 =$ | _____ |
| 7. | $8 + 2 =$ | _____ | 8. | $1 + 2 =$ | _____ |
| 9. | $3 + 9 =$ | _____ | 10. | $3 + 8 =$ | _____ |
| 11. | $2 + 7 =$ | _____ | 12. | $6 + 6 =$ | _____ |
| 13. | $1 + 4 =$ | _____ | 14. | $8 + 8 =$ | _____ |
| 15. | $6 + 3 =$ | _____ | 16. | $0 + 2 =$ | _____ |
| 17. | $9 + 9 =$ | _____ | 18. | $3 + 3 =$ | _____ |
| 19. | $0 + 8 =$ | _____ | 20. | $7 + 6 =$ | _____ |
| 21. | $4 + 7 =$ | _____ | 22. | $8 + 8 =$ | _____ |
| 23. | $3 + 6 =$ | _____ | 24. | $4 + 9 =$ | _____ |

INTRODUCTION TO MULTIPLICATION (X)

MULTIPLICATION IS USED TO HELP US ADD THE SAME NUMBER OVER AND OVER AGAIN. THERE ARE BASICALLY THREE WAYS TO SHOW MULTIPLICATION: 2×3 , $2 + 3$, $(2)(3)$.

SO IF I HAD $3 + 3$, I COULD JUST SAY 2 TIMES 3, WHICH IF I LOOK AT OUR MULTIPLICATION TABLE IS 6.

EXACTLY. SINCE THE SAME AMOUNT IS REPEATED WE CAN JUST MULTIPLY.

THAT MAKES ADDING A LOT EASIER. I MEAN INSTEAD OF ADDING $7 + 7 + 7 + 7$, I CAN JUST DO $4 \times 7 = 28$.

VERY GOOD, BUT BEFORE I MEMORIZED MY MULTIPLICATION FACTS, I USED LINES OR PICTURES TO COUNT. FOR EXAMPLE, IF I MULTIPLIED 4×5 .

I GET IT. YOU'RE SAYING YOU HAVE 4 GROUPS OF 5, AND THEN YOU ADD THEM TOGETHER.

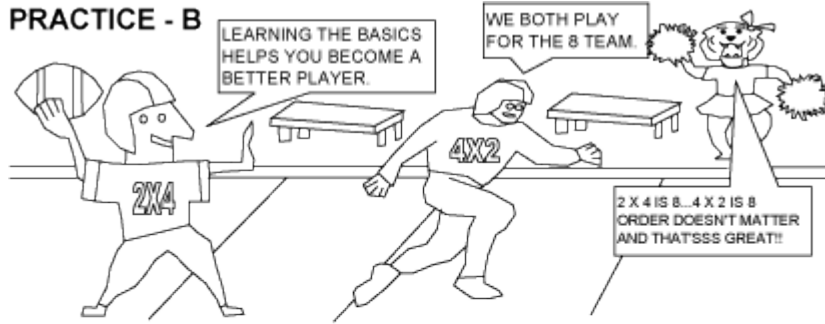
$4 \times 5 = 20$

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20

OR YOU COULD JUST CARRY THE MULTIPLICATION TABLE AROUND WITH YOU. KIND OF LIKE THIS BANANA... I NEVER LEAVE HOME WITHOUT IT.

THAT'S SILLY.

PRACTICE - B



1. $4 \times 1 =$ _____
□ □ □ □
2. $3 \times 5 =$ _____
□□□□□ □□□□□ □□□□□
3. $5 \times 4 =$ _____
4. $2 \times 6 =$ _____
5. $3 \times 2 =$ _____
6. $4 \times 1 =$ _____
7. $1 \times 6 =$ _____
8. $3 \times 4 =$ _____
9. $2 \times 5 =$ _____
10. $6 \times 1 =$ _____
11. $3 \times 6 =$ _____
12. $5 \times 2 =$ _____
13. $2 \times 3 =$ _____
14. $3 \times 2 =$ _____
15. $1 \times 5 =$ _____
16. $4 \times 3 =$ _____
17. $4 \times 5 =$ _____
18. $6 \times 1 =$ _____

MULTIPLICATION = ADDITION



SO HOW YOU DOING SO FAR? I HONESTLY LIKE DRAWING PICTURES, BUT REMEMBER, MULTIPLICATION IS JUST A SHORT CUT TO ADDING.

$$3 \times 7 = 7 + 7 + 7$$

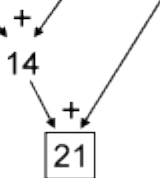


WHEN YOU LOOK AT THIS PROBLEM YOU CAN SEE 3 GROUPS OF 7, WHICH IF YOU JUST ADD IS $7 + 7 + 7$.

$$3 \times 7 = 7 + 7 + 7$$



IF YOU ADD ALL THE 7'S YOU GET 21.



1. $4 \times 7 =$ _____
7 + 7 + 7 + 7

2. $3 \times 4 =$ _____
4 + 4 + 4

3. $4 \times 2 =$ _____
 + + +

4. $2 \times 5 =$ _____
 +



PRACTICING YOUR ADDITION SKILLS WILL DEFINITELY HELP WITH MULTIPLICATION, SO DON'T EVEN THINK ABOUT LOOKING AT THE MULTIPLICATION CHARTS. YOU'LL START MEMORIZING IN A BIT.

HOW ADDING CAN HELP

WHILE YOU WERE ADDING DID YOU SEE A SHORT CUT?



HELPFUL EXAMPLE

$$\begin{aligned} 2 \times 3 &= 3 + 3 && = 6 \\ 3 \times 3 &= 3 + 3 + 3 && = 9 \\ 4 \times 3 &= 3 + 3 + 3 + 3 && = 12 \end{aligned}$$

OR

$$\begin{aligned} 2 \times 3 &= 6 \\ 3 \times 3 &= 6 + 3 = 9 \\ 4 \times 3 &= 9 + 3 = 12 \end{aligned}$$

YOU'RE JUST ADDING 3 TO THE ANSWER ABOVE.



HOW ABOUT...

$$\begin{aligned} 5 \times 3 &= 12 + 3 = \square \\ 6 \times 3 &= \square + 3 = \square \\ 7 \times 3 &= \square + 3 = \square \end{aligned}$$

- $3 \times 6 = 18$
 $4 \times 6 = \square + 6 = \square$
- $7 \times 8 = 56$
 $8 \times 8 = \square + 8 = \square$
- $4 \times 12 = 48$
 $5 \times 12 = \square + 12 = \square$
- $6 \times 7 = 42$
 $7 \times 7 = \square + 7 = \square$

WOW, THIS ISN'T SCARY AT ALL ONCE YOU SEE THE PATTERN.



PRACTICE



1. $2 \times 5 = \underline{\quad}$
 $3 \times 5 = \underline{\quad}$

2. $3 \times 4 = \underline{\quad}$
 $4 \times 4 = \underline{\quad}$

3. $3 \times 6 = \underline{\quad}$
 $4 \times 6 = \underline{\quad}$

4. $5 \times 6 = \underline{\quad}$
 $6 \times 6 = \underline{\quad}$

5. $2 \times 8 = \underline{\quad}$
 $3 \times 8 = \underline{\quad}$

6. $3 \times 7 = \underline{\quad}$
 $4 \times 7 = \underline{\quad}$

7. $5 \times 2 = \underline{\quad}$
 $6 \times 2 = \underline{\quad}$

8. $4 \times 3 = \underline{\quad}$
 $5 \times 3 = \underline{\quad}$

9. $6 \times 3 = \underline{\quad}$
 $7 \times 3 = \underline{\quad}$

10. $5 \times 7 = \underline{\quad}$
 $6 \times 7 = \underline{\quad}$

11. $5 \times 4 = \underline{\quad}$
 $6 \times 4 = \underline{\quad}$

12. $4 \times 8 = \underline{\quad}$
 $5 \times 8 = \underline{\quad}$

13. $4 \times 5 = \underline{\quad}$
 $5 \times 5 = \underline{\quad}$

14. $8 \times 3 = \underline{\quad}$
 $9 \times 3 = \underline{\quad}$

PRACTICE - B



THE WORD, *MULTIPLE*, JUST MEANS THE ANSWER YOU GET WHEN YOU MULTPLY.


6 IS A *MULTIPLE* OF 2 AND 3, BECAUSE $2 \times 3 = 6$.



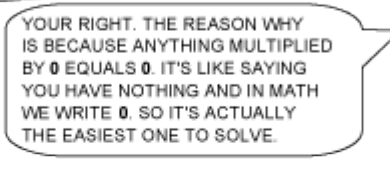
1. $3 \times 1 =$ _____
3. $5 \times 3 =$ _____
5. $8 \times 2 =$ _____
7. $10 \times 3 =$ _____
9. $2 \times 1 =$ _____
11. $6 \times 3 =$ _____
13. $1 \times 3 =$ _____
15. $4 \times 1 =$ _____
17. $5 \times 3 =$ _____
19. $6 \times 3 =$ _____
21. $11 \times 2 =$ _____
23. $3 \times 1 =$ _____
25. $12 \times 2 =$ _____
27. $8 \times 3 =$ _____
29. $13 \times 2 =$ _____
31. $4 \times 2 =$ _____
33. $1 \times 3 =$ _____
35. $8 \times 2 =$ _____
37. $9 \times 3 =$ _____
39. $5 \times 1 =$ _____
41. $3 \times 2 =$ _____
43. $13 \times 1 =$ _____
45. $7 \times 1 =$ _____

2. $11 \times 3 =$ _____
4. $8 \times 3 =$ _____
6. $4 \times 3 =$ _____
8. $10 \times 2 =$ _____
10. $9 \times 2 =$ _____
12. $7 \times 3 =$ _____
14. $2 \times 1 =$ _____
16. $12 \times 2 =$ _____
18. $5 \times 2 =$ _____
20. $3 \times 1 =$ _____
22. $8 \times 3 =$ _____
24. $4 \times 3 =$ _____
26. $12 \times 3 =$ _____
28. $6 \times 2 =$ _____
30. $5 \times 2 =$ _____
32. $9 \times 1 =$ _____
34. $7 \times 2 =$ _____
36. $11 \times 3 =$ _____
38. $7 \times 3 =$ _____
40. $4 \times 1 =$ _____
42. $5 \times 3 =$ _____
44. $10 \times 2 =$ _____
46. $2 \times 2 =$ _____

PRACTICE - A



HEY MAX, I JUST REALIZED WE
HAVE NOT MULTIPLIED BY 0.

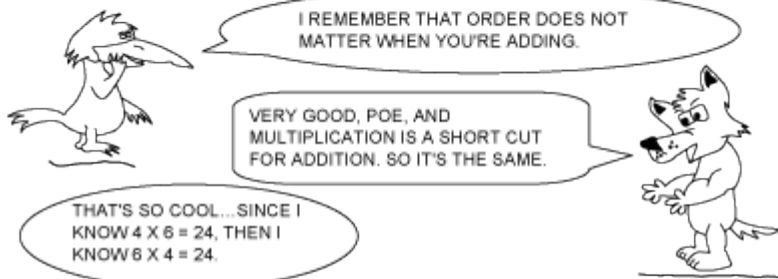


YOUR RIGHT. THE REASON WHY
IS BECAUSE ANYTHING MULTIPLIED
BY 0 EQUALS 0. IT'S LIKE SAYING
YOU HAVE NOTHING AND IN MATH
WE WRITE 0. SO IT'S ACTUALLY
THE EASIEST ONE TO SOLVE.

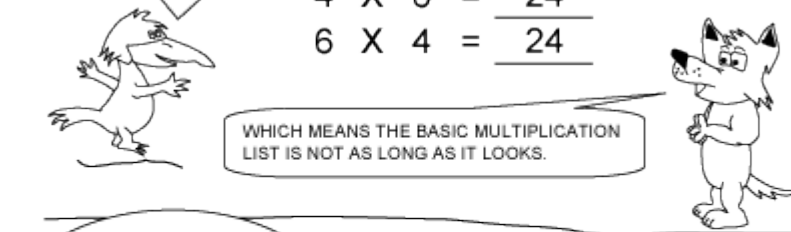
$$0 \times 7 = \underline{0}$$

- | | | | |
|-----|----------------|-----|----------------|
| 1. | 11 X 4 = _____ | 2. | 13 X 6 = _____ |
| 3. | 2 X 5 = _____ | 4. | 10 X 5 = _____ |
| 5. | 6 X 6 = _____ | 6. | 3 X 5 = _____ |
| 7. | 1 X 4 = _____ | 8. | 6 X 4 = _____ |
| 9. | 9 X 5 = _____ | 10. | 5 X 6 = _____ |
| 11. | 3 X 5 = _____ | 12. | 8 X 6 = _____ |
| 13. | 7 X 6 = _____ | 14. | 1 X 5 = _____ |
| 15. | 12 X 4 = _____ | 16. | 9 X 4 = _____ |
| 17. | 0 X 4 = _____ | 18. | 12 X 5 = _____ |
| 19. | 8 X 5 = _____ | 20. | 4 X 6 = _____ |
| 21. | 4 X 6 = _____ | 22. | 12 X 4 = _____ |
| 23. | 6 X 6 = _____ | 24. | 8 X 4 = _____ |
| 25. | 13 X 4 = _____ | 26. | 7 X 5 = _____ |
| 27. | 5 X 5 = _____ | 28. | 10 X 4 = _____ |
| 29. | 9 X 4 = _____ | 30. | 7 X 6 = _____ |
| 31. | 2 X 5 = _____ | 32. | 6 X 6 = _____ |
| 33. | 7 X 4 = _____ | 34. | 0 X 5 = _____ |
| 35. | 11 X 6 = _____ | 36. | 5 X 5 = _____ |
| 37. | 4 X 4 = _____ | 38. | 11 X 5 = _____ |

FAMILIES



$$\begin{array}{r} 4 \times 6 = 24 \\ 6 \times 4 = 24 \end{array}$$



PRACTICE - C

ANSWER THE PROBLEMS. THEN
CONNECT A LINE TO EACH FAMILY.



$9 \times 2 = 18$

$6 \times 3 = \underline{\hspace{2cm}}$

$4 \times 5 = \underline{\hspace{2cm}}$

$10 \times 6 = \underline{\hspace{2cm}}$

$7 \times 1 = \underline{\hspace{2cm}}$

$3 \times 4 = \underline{\hspace{2cm}}$

$11 \times 5 = \underline{\hspace{2cm}}$

$0 \times 3 = \underline{\hspace{2cm}}$

$6 \times 4 = \underline{\hspace{2cm}}$

$13 \times 3 = \underline{\hspace{2cm}}$

$9 \times 5 = \underline{\hspace{2cm}}$

$7 \times 4 = \underline{\hspace{2cm}}$

$12 \times 6 = \underline{\hspace{2cm}}$

$6 \times 2 = \underline{\hspace{2cm}}$

$8 \times 3 = \underline{\hspace{2cm}}$

$10 \times 2 = \underline{\hspace{2cm}}$

$7 \times 6 = \underline{\hspace{2cm}}$

$1 \times 7 = \underline{\hspace{2cm}}$

$4 \times 6 = \underline{\hspace{2cm}}$

$3 \times 6 = \underline{\hspace{2cm}}$

$2 \times 9 = 18$

$4 \times 7 = \underline{\hspace{2cm}}$

$2 \times 10 = \underline{\hspace{2cm}}$

$5 \times 11 = \underline{\hspace{2cm}}$

$6 \times 12 = \underline{\hspace{2cm}}$

$3 \times 8 = \underline{\hspace{2cm}}$

$6 \times 10 = \underline{\hspace{2cm}}$

$6 \times 7 = \underline{\hspace{2cm}}$

$5 \times 4 = \underline{\hspace{2cm}}$

$3 \times 13 = \underline{\hspace{2cm}}$

$4 \times 3 = \underline{\hspace{2cm}}$

$3 \times 0 = \underline{\hspace{2cm}}$

$5 \times 9 = \underline{\hspace{2cm}}$

$2 \times 6 = \underline{\hspace{2cm}}$

9 X 2 = 2 X 9

DIRECTIONS:

NAME: _____

ANSWER THE PROBLEMS BELOW AND CONNECT THE DOTS IN THE ORDER YOU CREATED.

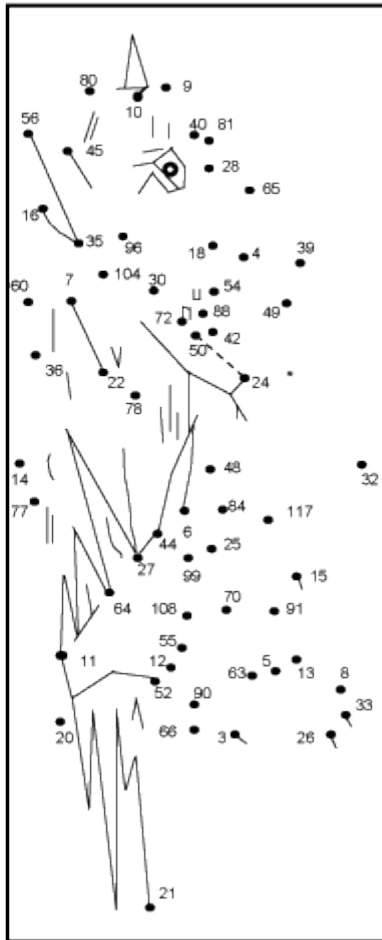
I STARTED THE PATTERN FOR YOU...NOW YOU DO THE REST.

NOTE: PATTERNS ARE **NOT** CONNECTED TOGETHER.

PATTERN #1

- 3 X 8 = 24
- 10 X 5 = 50
- 6 X 7 = _____
- 8 X 11 = _____
- 8 X 9 = _____
- 10 X 3 = _____
- 6 X 9 = _____
- 9 X 2 = _____
- 2 X 2 = _____
- 7 X 7 = _____
- 8 X 4 = _____
- 3 X 13 = _____
- 13 X 5 = _____
- 7 X 4 = _____
- 9 X 9 = _____
- 5 X 8 = _____
- 3 X 3 = _____
- 10 X 8 = _____
- 5 X 9 = _____
- 7 X 8 = _____
- 4 X 4 = _____
- 10 X 6 = _____
- 2 X 7 = _____
- 9 X 4 = _____
- 7 X 11 = _____
- 5 X 4 = _____
- 1 X 11 = _____
- 8 X 8 = _____
- 9 X 3 = _____
- 1 X 7 = _____

LINE ENDS



PATTERN #2

- 11 X 2 = _____
- 7 X 5 = _____
- 8 X 13 = _____
- 5 X 2 = _____
- 12 X 8 = _____
- 6 X 13 = _____
- 11 X 4 = _____
- 3 X 2 = _____
- 8 X 6 = _____
- 9 X 13 = _____
- 3 X 5 = _____
- 12 X 7 = _____
- 9 X 11 = _____
- 5 X 5 = _____
- 13 X 7 = _____
- 2 X 4 = _____
- 11 X 3 = _____
- 13 X 1 = _____
- 7 X 10 = _____
- 12 X 9 = _____
- 5 X 1 = _____
- 13 X 2 = _____
- 7 X 9 = _____
- 11 X 5 = _____
- 4 X 3 = _____
- 9 X 10 = _____
- 1 X 3 = _____
- 6 X 11 = _____
- 13 X 4 = _____
- 3 X 7 = _____

LINE ENDS

MULTIPLYING - 10



I HAVE SOME BAD NEWS AND SOME GOOD NEWS. THE BAD NEWS IS THE BREAK IS OVER. THE GOOD NEWS IS YOU'RE ALMOST DONE MEMORIZING.



BUT I'M ALREADY OUT OF FINGERS, AND WE STILL HAVE FOUR MORE.



BUT THE NEXT TWO ARE FAIRLY EASY. FIRST WE NEED TO DO 10.



SOMEONE TOLD ME 10 IS REALLY, REALLY EASY. SOMETHING ABOUT JUST ADDING A ZERO AT THE END.



YOU'RE TOTALLY RIGHT, POE. CHECK OUT THE PROBLEMS BELOW.

1	X	10	=	10
2	X	10	=	20
3	X	10	=	30
4	X	10	=	40
5	X	10	=	50
6	X	10	=	60
7	X	10	=	70
8	X	10	=	80
9	X	10	=	90
10	X	10	=	100
11	X	10	=	110
12	X	10	=	120
13	X	10	=	130

I WISH EVERYDAY
COULD BE A TEN DAY.



I GET IT... ALL YOU DID IS ADD A ZERO AFTER THE NUMBER YOU WERE MULTIPLYING BY TEN. FOR EXAMPLE, 3 X 10 IS 3 WITH A 0 AFTER IT.

MEMORIZING FACTS (10 & 11) - PRACTICE

$$\begin{array}{r} 13 \times 11 = \\ \quad + 13 \\ \hline 143 \end{array}$$



- | | | | |
|-----|-----------------|-----|-----------------|
| 1. | 4 X 10 = _____ | 2. | 12 X 11 = _____ |
| 3. | 11 X 11 = _____ | 4. | 7 X 10 = _____ |
| 5. | 8 X 10 = _____ | 6. | 8 X 11 = _____ |
| 7. | 11 X 10 = _____ | 8. | 10 X 10 = _____ |
| 9. | 2 X 11 = _____ | 10. | 12 X 11 = _____ |
| 11. | 7 X 11 = _____ | 12. | 1 X 10 = _____ |
| 13. | 0 X 10 = _____ | 14. | 3 X 11 = _____ |
| 15. | 5 X 10 = _____ | 16. | 10 X 11 = _____ |
| 17. | 4 X 11 = _____ | 18. | 13 X 10 = _____ |
| 19. | 6 X 10 = _____ | 20. | 2 X 11 = _____ |
| 21. | 12 X 11 = _____ | 22. | 0 X 11 = _____ |
| 23. | 3 X 10 = _____ | 24. | 9 X 11 = _____ |
| 25. | 13 X 11 = _____ | 26. | 12 X 10 = _____ |
| 27. | 4 X 10 = _____ | 28. | 1 X 11 = _____ |
| 29. | 3 X 11 = _____ | 30. | 7 X 10 = _____ |
| 31. | 9 X 10 = _____ | 32. | 4 X 10 = _____ |
| 33. | 6 X 10 = _____ | 34. | 1 X 11 = _____ |
| 35. | 7 X 11 = _____ | 36. | 12 X 11 = _____ |
| 37. | 0 X 11 = _____ | 38. | 9 X 10 = _____ |
| 39. | 7 X 10 = _____ | 40. | 8 X 11 = _____ |
| 41. | 11 X 11 = _____ | 42. | 12 X 10 = _____ |
| 43. | 13 X 10 = _____ | 44. | 8 X 10 = _____ |
| 45. | 2 X 10 = _____ | 46. | 9 X 11 = _____ |

MEMORIZING FACTS (12 AND 13)

HERE ARE THE LAST TWO NUMBERS WE NEED TO MEMORIZE. THEY ARE THE BIG 12 AND 13, WHICH IF YOU THINK ABOUT IT, YOU HAVE PRETTY MUCH ALREADY LEARNED.



1 X 12 = 12	1 X 13 = 13
2 X 12 = 24	2 X 13 = 26
3 X 12 = 36	3 X 13 = 39
4 X 12 = 48	4 X 13 = 52
5 X 12 = 60	5 X 13 = 65
6 X 12 = 72	6 X 13 = 78
7 X 12 = 84	7 X 13 = 91
8 X 12 = 96	8 X 13 = 104
9 X 12 = 108	9 X 13 = 117
10 X 12 = 120	10 X 13 = 130
11 X 12 = 132	11 X 13 = 143
12 X 12 = 144	12 X 13 = 156
13 X 12 = 156	13 X 13 = 169

YOUR RIGHT. THE ONLY DIFFERENCE IS THE ORDER HAS CHANGED.

HELPFUL EXAMPLE

$$12 \times 6 = 6 \times 12 = 72$$



- | | |
|---------------------|---------------------|
| 1. 4 X 12 = _____ | 2. 4 X 13 = _____ |
| 3. 7 X 13 = _____ | 4. 8 X 12 = _____ |
| 5. 2 X 13 = _____ | 6. 10 X 12 = _____ |
| 7. 1 X 12 = _____ | 8. 6 X 13 = _____ |
| 9. 6 X 12 = _____ | 10. 0 X 12 = _____ |
| 11. 0 X 13 = _____ | 12. 11 X 13 = _____ |
| 13. 3 X 12 = _____ | 14. 2 X 12 = _____ |
| 15. 8 X 13 = _____ | 16. 7 X 12 = _____ |
| 17. 9 X 12 = _____ | 18. 3 X 13 = _____ |
| 19. 2 X 13 = _____ | 20. 1 X 13 = _____ |
| 21. 5 X 12 = _____ | 22. 12 X 12 = _____ |
| 23. 11 X 12 = _____ | 24. 5 X 13 = _____ |

DIRECTIONS:

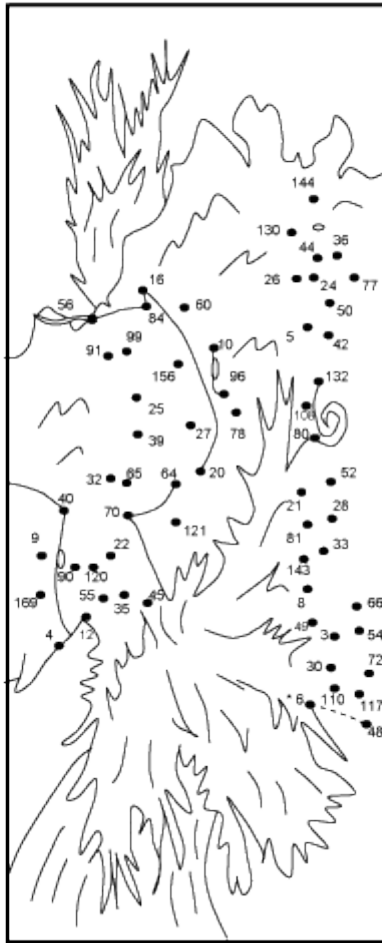
NAME: _____

ANSWER THE PROBLEMS BELOW AND CONNECT THE DOTS IN THE ORDER YOU CREATED.
 I STARTED THE PATTERN FOR YOU...NOW YOU DO THE REST.
 NOTE: PATTERNS ARE NOT CONNECTED TOGETHER.

PATTERN #1

- 3 X 2 = 6
- 8 X 6 = 48
- 9 X 13 = _____
- 10 X 11 = _____
- 8 X 9 = _____
- 10 X 3 = _____
- 6 X 9 = _____
- 1 X 3 = _____
- 6 X 11 = _____
- 7 X 7 = _____
- 2 X 4 = _____
- 11 X 3 = _____
- 13 X 11 = _____
- 7 X 4 = _____
- 9 X 9 = _____
- 13 X 4 = _____
- 3 X 7 = _____
- 10 X 8 = _____
- 12 X 9 = _____
- 5 X 1 = _____
- 13 X 2 = _____
- 10 X 13 = _____
- 12 X 12 = _____
- 9 X 4 = _____
- 7 X 11 = _____
- 11 X 4 = _____
- 3 X 8 = _____
- 10 X 5 = _____
- 6 X 7 = _____
- 12 X 11 = _____

LINE ENDS



PATTERN #2

- 7 X 8 = _____
- 4 X 4 = _____
- 10 X 6 = _____
- 5 X 2 = _____
- 12 X 8 = _____
- 6 X 13 = _____
- 5 X 4 = _____
- 11 X 11 = _____
- 8 X 8 = _____
- 9 X 3 = _____
- 13 X 12 = _____
- 12 X 7 = _____
- 9 X 11 = _____
- 5 X 5 = _____
- 13 X 7 = _____
- 8 X 4 = _____
- 3 X 13 = _____
- 13 X 5 = _____
- 7 X 10 = _____
- 5 X 9 = _____
- 11 X 2 = _____
- 7 X 5 = _____
- 12 X 10 = _____
- 11 X 5 = _____
- 4 X 3 = _____
- 9 X 10 = _____
- 5 X 8 = _____
- 3 X 3 = _____
- 13 X 13 = _____
- 2 X 2 = _____

LINE ENDS

TIME TESTS



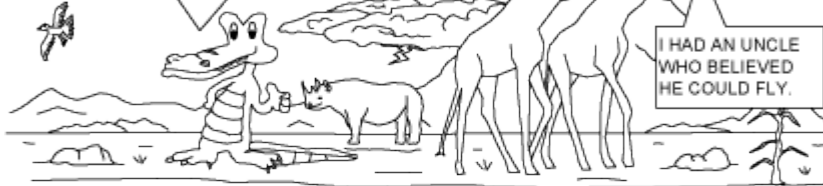
HERE ARE SOME **TIME TESTS** FOR YOU TO PRACTICE ON. ASK A FRIEND OR PARTNER TO TIME YOU AND CHECK YOUR ANSWERS.

AT FIRST, EACH TEST SHOULD TAKE ABOUT 4 MINUTES, BUT YOUR GOAL IS TO GET FASTER AND FASTER.



GOOD LUCK AND REMEMBER, YOU GOT TO BELIEVE TO SUCCEED.

YAH, THAT'S A GOOD POINT...GOTTA BELIEVE.



I HAD AN UNCLE WHO BELIEVED HE COULD FLY.

TIME TEST - A

6 X 13 = ____	6 X 12 = ____	13 X 4 = ____
11 X 4 = ____	1 X 3 = ____	3 X 7 = ____
3 X 2 = ____	13 X 7 = ____	8 X 8 = ____
12 X 11 = ____	2 X 4 = ____	13 X 13 = ____
8 X 9 = ____	13 X 12 = ____	13 X 5 = ____
10 X 3 = ____	12 X 9 = ____	7 X 4 = ____
9 X 11 = ____	5 X 1 = ____	9 X 9 = ____
5 X 5 = ____	4 X 13 = ____	2 X 2 = ____
7 X 7 = ____	12 X 11 = ____	8 X 6 = ____
8 X 4 = ____	9 X 11 = ____	9 X 13 = ____
5 X 2 = ____	5 X 5 = ____	0 X 11 = ____
3 X 13 = ____	6 X 8 = ____	10 X 8 = ____
8 X 4 = ____	9 X 13 = ____	5 X 9 = ____
5 X 2 = ____	13 X 11 = ____	13 X 7 = ____
3 X 13 = ____	7 X 10 = ____	11 X 2 = ____

TIME TEST - D



SO HOW YOU DOING? IF YOU'RE STRUGGLING, TRY DOING THE EASY PROBLEMS FIRST... YOU KNOW, LIKE 2×4 AND 13×1 . THAT WAY YOU GET THOSE DONE. THEN GO BACK AND DO THE HARDER ONES.

$9 \times 7 = \underline{\quad}$	$13 \times 7 = \underline{\quad}$	$13 \times 1 = \underline{\quad}$
$8 \times 3 = \underline{\quad}$	$2 \times 4 = \underline{\quad}$	$12 \times 9 = \underline{\quad}$
$6 \times 8 = \underline{\quad}$	$2 \times 13 = \underline{\quad}$	$5 \times 1 = \underline{\quad}$
$2 \times 13 = \underline{\quad}$	$8 \times 8 = \underline{\quad}$	$3 \times 4 = \underline{\quad}$
$7 \times 2 = \underline{\quad}$	$9 \times 3 = \underline{\quad}$	$9 \times 10 = \underline{\quad}$
$5 \times 1 = \underline{\quad}$	$3 \times 3 = \underline{\quad}$	$10 \times 7 = \underline{\quad}$
$11 \times 1 = \underline{\quad}$	$9 \times 5 = \underline{\quad}$	$11 \times 3 = \underline{\quad}$
$10 \times 6 = \underline{\quad}$	$8 \times 7 = \underline{\quad}$	$13 \times 8 = \underline{\quad}$
$2 \times 2 = \underline{\quad}$	$6 \times 0 = \underline{\quad}$	$7 \times 1 = \underline{\quad}$
$8 \times 4 = \underline{\quad}$	$3 \times 13 = \underline{\quad}$	$2 \times 11 = \underline{\quad}$
$10 \times 8 = \underline{\quad}$	$7 \times 4 = \underline{\quad}$	$3 \times 1 = \underline{\quad}$
$5 \times 9 = \underline{\quad}$	$9 \times 9 = \underline{\quad}$	$9 \times 11 = \underline{\quad}$
$12 \times 7 = \underline{\quad}$	$4 \times 13 = \underline{\quad}$	$5 \times 5 = \underline{\quad}$

TIME TEST - E

$9 \times 4 = \underline{\quad}$	$10 \times 8 = \underline{\quad}$	$13 \times 5 = \underline{\quad}$
$6 \times 11 = \underline{\quad}$	$9 \times 5 = \underline{\quad}$	$7 \times 4 = \underline{\quad}$
$5 \times 6 = \underline{\quad}$	$12 \times 10 = \underline{\quad}$	$9 \times 9 = \underline{\quad}$
$7 \times 4 = \underline{\quad}$	$5 \times 2 = \underline{\quad}$	$2 \times 2 = \underline{\quad}$
$10 \times 13 = \underline{\quad}$	$2 \times 11 = \underline{\quad}$	$8 \times 6 = \underline{\quad}$
$11 \times 2 = \underline{\quad}$	$7 \times 5 = \underline{\quad}$	$9 \times 13 = \underline{\quad}$
$7 \times 5 = \underline{\quad}$	$2 \times 10 = \underline{\quad}$	$10 \times 11 = \underline{\quad}$
$12 \times 0 = \underline{\quad}$	$11 \times 11 = \underline{\quad}$	$10 \times 8 = \underline{\quad}$
$6 \times 4 = \underline{\quad}$	$8 \times 8 = \underline{\quad}$	$5 \times 9 = \underline{\quad}$
$5 \times 8 = \underline{\quad}$	$9 \times 3 = \underline{\quad}$	$13 \times 7 = \underline{\quad}$
$3 \times 3 = \underline{\quad}$	$8 \times 7 = \underline{\quad}$	$11 \times 2 = \underline{\quad}$
$9 \times 3 = \underline{\quad}$	$6 \times 13 = \underline{\quad}$	$12 \times 8 = \underline{\quad}$
$13 \times 12 = \underline{\quad}$	$11 \times 4 = \underline{\quad}$	$6 \times 9 = \underline{\quad}$
$7 \times 7 = \underline{\quad}$	$3 \times 2 = \underline{\quad}$	$4 \times 4 = \underline{\quad}$
$3 \times 2 = \underline{\quad}$	$11 \times 5 = \underline{\quad}$	$11 \times 10 = \underline{\quad}$



YOU EITHER LOVE IT OR HATE IT.
EITHER WAY, WE'RE HERE TO HELP.

