DIVISION - LEVEL 2

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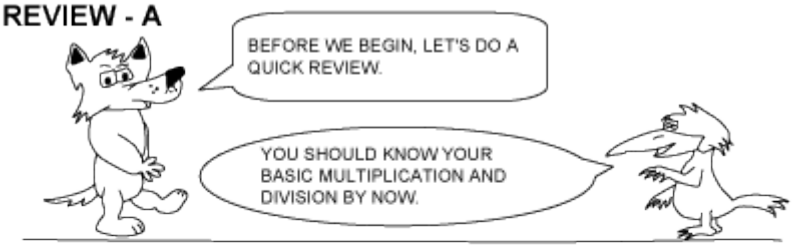
HOW TO USE TABLE

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

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

REVIEW - A



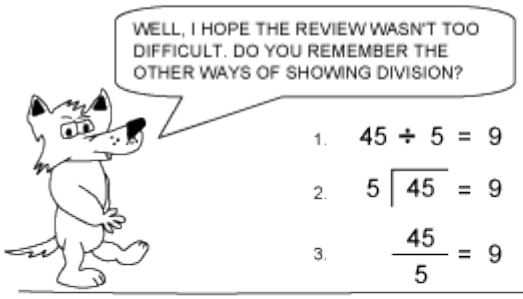
REVIEW - A

3 X 5 = 5 + 5 + 5 = 15

MULTIPLICATION IS A SHORTCUT FOR ADDITION.

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

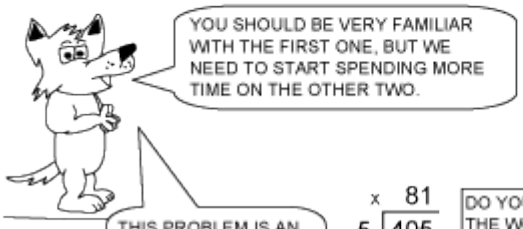
LONG DIVISION

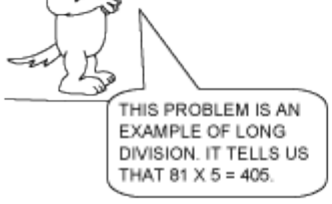


1. $45 \div 5 = 9$

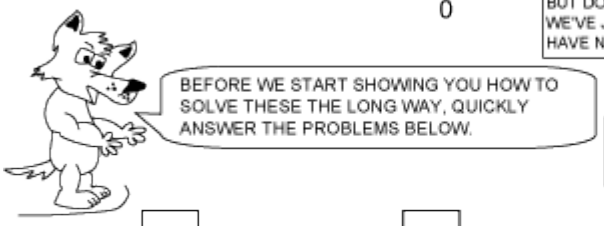
2. $5 \overline{)45} = 9$

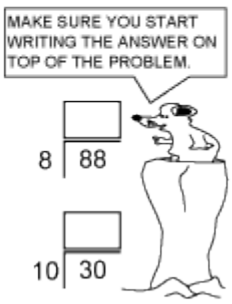
3. $\frac{45}{5} = 9$





$$\begin{array}{r} \text{x } 81 \\ 5 \overline{)405} \\ -\ 40\downarrow \\ \hline 005 \\ -\ \ 5 \\ \hline 0 \end{array}$$

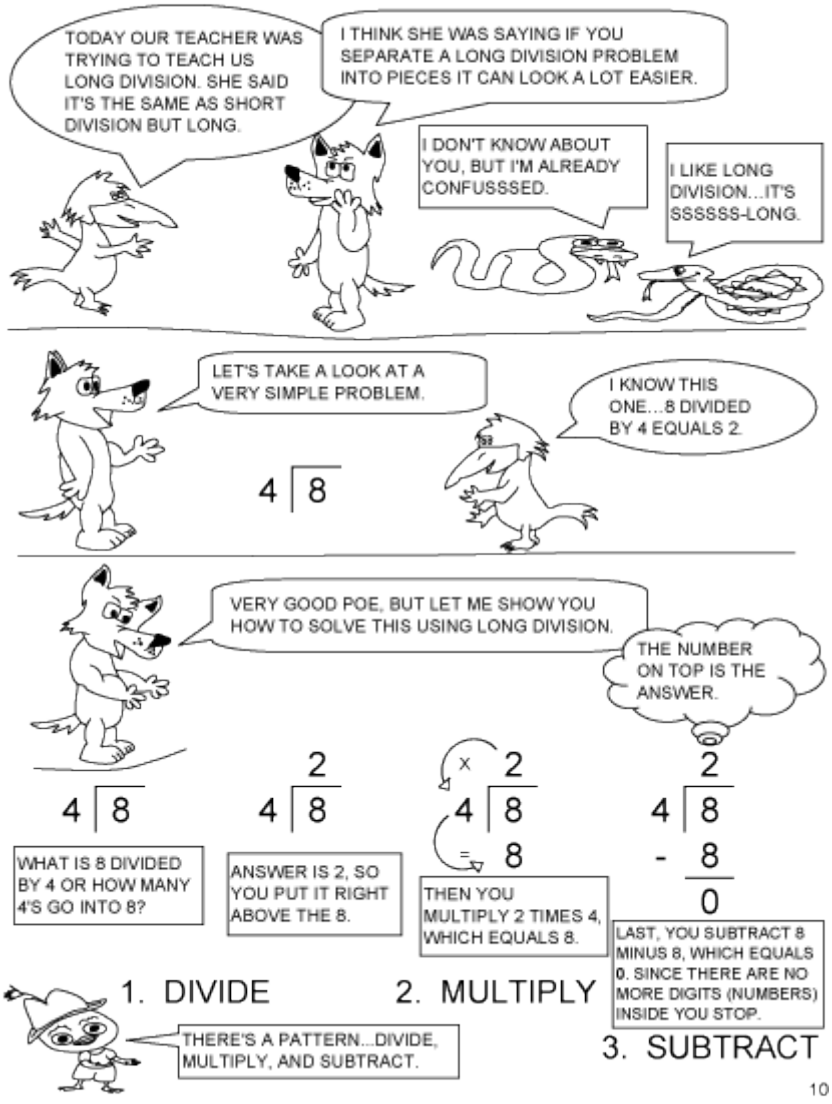




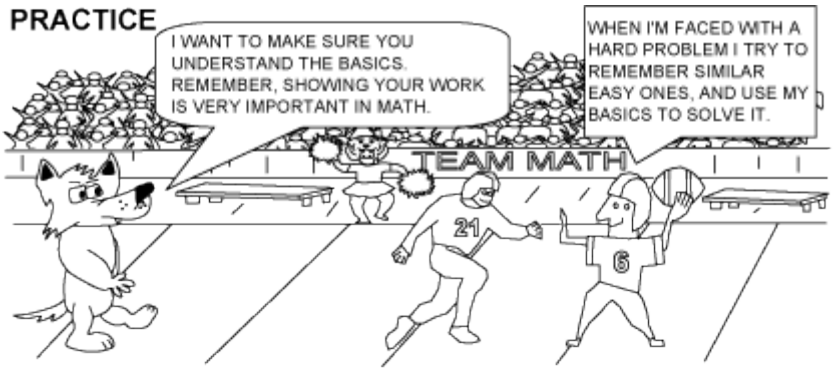
1. $11 \overline{)143}$ 2. $4 \overline{)28}$ 3. $8 \overline{)88}$

4. $5 \overline{)45}$ 5. $8 \overline{)56}$ 6. $10 \overline{)30}$

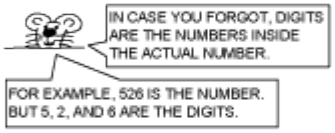
LONG DIVISION - CONTINUED



PRACTICE



HELPFUL EXAMPLE



$$\begin{array}{r} 1 \\ 2\overline{)2} \\ -\ 2 \\ \hline 0 \end{array}$$

DIVIDE

MULTIPLY

SUBTRACT

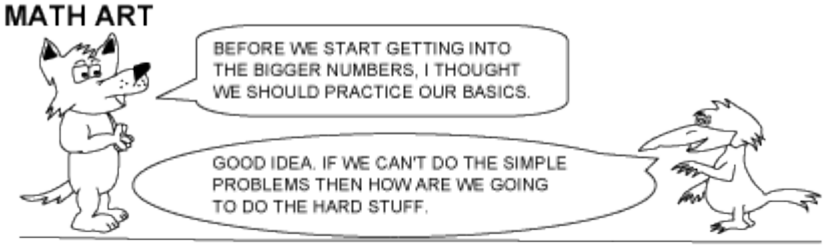
ANSWER: 1

1. $2\overline{)4}$ 2. $4\overline{)8}$ 3. $1\overline{)5}$ 4. $2\overline{)6}$

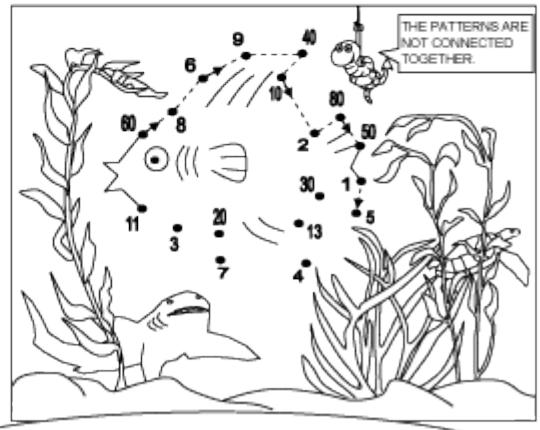
5. $3\overline{)3}$ 6. $2\overline{)8}$ 7. $3\overline{)9}$ 8. $1\overline{)3}$

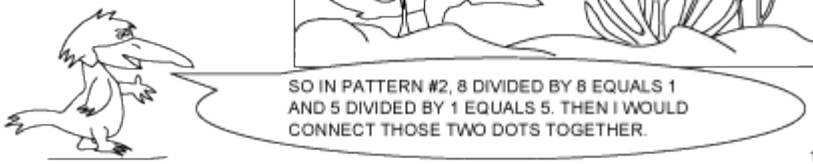
9. $1\overline{)8}$ 10. $3\overline{)6}$ 11. $4\overline{)4}$ 12. $3\overline{)9}$

MATH ART



PATTERN #1					PATTERN #2				
360	÷	6	=	60	8	÷	8	=	____
16	÷	2	=	8	5	÷	1	=	____
42	÷	7	=	6	150	÷	5	=	____
81	÷	9	=	9	78	÷	6	=	____
160	÷	4	=	40	44	÷	11	=	____
50	÷	5	=	10	80	÷	4	=	____
24	÷	12	=	2	63	÷	9	=	____
640	÷	8	=	80	12	÷	4	=	____
300	÷	6	=	50	77	÷	7	=	____
LINE ENDS					LINE ENDS				



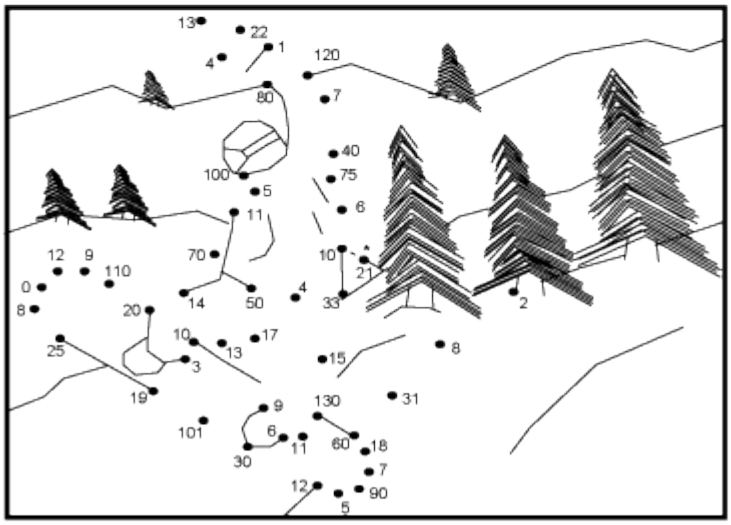


NAME: _____

DIRECTIONS:

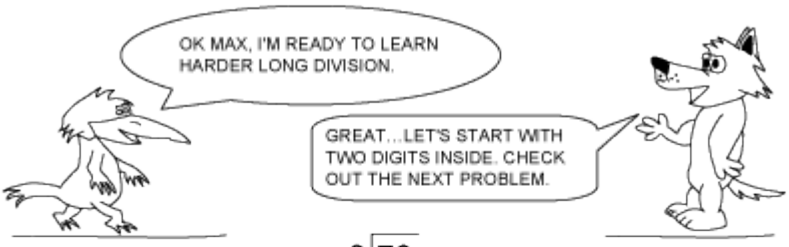
ANSWER THE PROBLEMS BELOW AND CONNECT THE DOTS IN THE ORDER YOU CREATED.
I STARTED THE PATTERN FOR YOU…NOW YOU DO THE REST. BE **CAREFUL** SOME NUMBERS REPEAT.
NOTE: PATTERNS ARE **NOT** CONNECTED TOGETHER.

PATTERN #1	PATTERN #2	PATTERN #3	PATTERN #4
42 ÷ 2 = 21	600 ÷ 6 = ____	250 ÷ 5 = ____	14 ÷ 7 = ____
50 ÷ 5 = 10	40 ÷ 8 = ____	36 ÷ 9 = ____	88 ÷ 11 = ____
66 ÷ 11 = ____	88 ÷ 8 = ____	99 ÷ 3 = ____	62 ÷ 2 = ____
150 ÷ 2 = ____	210 ÷ 3 = ____	30 ÷ 2 = ____	180 ÷ 3 = ____
160 ÷ 4 = ____	28 ÷ 2 = ____	390 ÷ 3 = ____	36 ÷ 2 = ____
63 ÷ 9 = ____	80 ÷ 4 = ____	99 ÷ 9 = ____	56 ÷ 8 = ____
720 ÷ 6 = ____	550 ÷ 5 = ____	36 ÷ 6 = ____	360 ÷ 4 = ____
32 ÷ 32 = ____	90 ÷ 10 = ____	99 ÷ 11 = ____	60 ÷ 12 = ____
44 ÷ 2 = ____	132 ÷ 11 = ____	34 ÷ 2 = ____	144 ÷ 12 = ____
156 ÷ 12 = ____	0 ÷ 17 = ____	91 ÷ 7 = ____	270 ÷ 9 = ____
52 ÷ 13 = ____	104 ÷ 13 = ____	80 ÷ 8 = ____	202 ÷ 2 = ____
560 ÷ 7 = ____	50 ÷ 2 = ____	39 ÷ 13 = ____	38 ÷ 2 = ____
LINE ENDS	LINE ENDS	LINE ENDS	LINE ENDS



15

LONG DIVISION - BIG NUMBERS



$3\overline{)78}$

FIRST I COVER UP ALL THE NUMBERS INSIDE EXCEPT THE FIRST ONE.

$3\overline{)7\square}$

NOW I ASK MYSELF HOW MANY **3**'S CAN GO INTO **7**? **2**.

$3\overline{)7\square}$ (2)

1 x 3 = 3
2 x 3 = 6 *
3 x 3 = 9

THEN I MULTIPLY THE TOP NUMBER BY **3** (2 X 3 = 6).

$\begin{array}{r} 2 \\ 3\overline{)7\square} \\ \times\ 2 \\ \hline 6 \end{array}$

NEXT I SUBTRACT THE **7** BY **6** (7 - 6 = 1).

$\begin{array}{r} 2 \\ 3\overline{)7\square} \\ -\ 6 \\ \hline 1 \end{array}$

NOW I UNCOVER THE NEXT NUMBER.

$\begin{array}{r} 2 \\ 3\overline{)78} \\ -\ 6 \\ \hline 1 \end{array}$

SINCE NOTHING IS HOLDING UP THE **8**, HE FALLS DOWN NEXT TO THE **1**.

$\begin{array}{r} 2 \\ 3\overline{)78} \\ -\ 6 \\ \hline 18 \end{array}$

HELP I'M FALLING

NOW I START OVER AGAIN. I NEED TO FIGURE OUT HOW MANY **3**'S GO INTO **18**? **6**.

$\begin{array}{r} 26 \\ 3\overline{)78} \\ -\ 6 \\ \hline 18 \end{array}$

4 x 3 = 12
5 x 3 = 15
6 x 3 = 18 *
7 x 3 = 21

THEN I MULTIPLY THE NEW TOP NUMBER BY **3** (6 X 3 = 18).

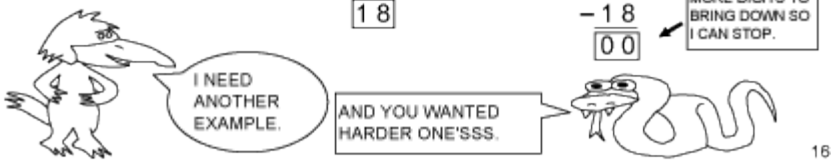
$\begin{array}{r} 26 \\ 3\overline{)78} \\ \times\ 26 \\ \hline 18 \\ \hline 18 \end{array}$

LAST, I SUBTRACT THE **18** BY **18** (18 - 18 = 0).

$\begin{array}{r} 26 \\ 3\overline{)78} \\ -\ 6 \\ \hline 18 \\ -\ 18 \\ \hline 00 \end{array}$

ANSWER IS 26
OR 3 X 26 = 78.

THERE ARE NO MORE DIGITS TO BRING DOWN SO I CAN STOP.



PRACTICE - A

GIVE THESE A TRY AND REMEMBER THE PATTERN:
1. DIVIDE
2. MULTIPLY
3. SUBTRACT
4. BRING DOWN

I JUST NOTICED SOMETHING...ALL THE DIGITS (NUMBERS) INSIDE HAVE A DIGIT ABOVE IT.

HELPFUL EXAMPLE

THE CLOSES YOU CAN COME TO 7 WITHOUT GOING OVER IS 3 X 2 = 6.

```
  x 3 7
2 | 7 4
  - 6
    1 4
  - 1 4
    0 0
```

2 GOES PERFECTLY INTO 14, BECAUSE 7 X 2 = 14.

ANOTHER WAY TO LOOK AT IT

37 X 2 = 74

1. 3 | 8 1
2. 5 | 9 5
3. 4 | 9 2
4. 2 | 5 4
5. 2 | 7 8
6. 6 | 9 6
7. 5 | 8 0
8. 3 | 9 0

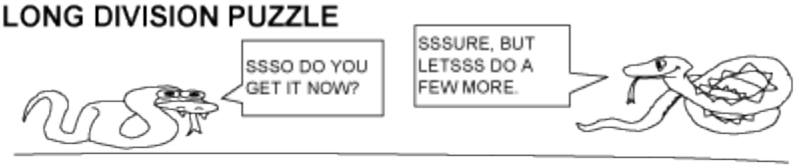
3 GOES INTO 9, BUT THE 0 IS TOO SMALL. WHEN THIS HAPPENS PUT A 0 ON TOP.

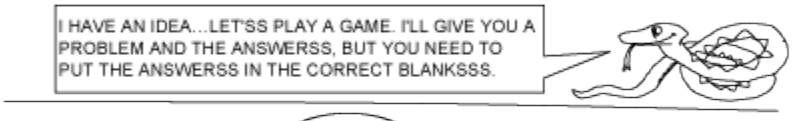
3 X 3 = 9, BUT 3 X 30 = 90
SEE WHY YOU NEED A 0?

PRACTICE - C

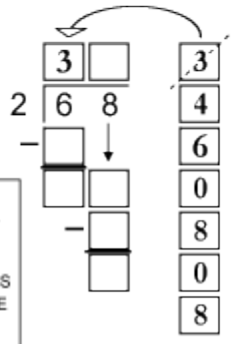
1. $7\overline{)98}$ (□□)
2. $4\overline{)68}$
3. $2\overline{)48}$
4. $5\overline{)75}$
5. $6\overline{)84}$
6. $3\overline{)81}$
7. $2\overline{)74}$
8. $6\overline{)78}$
9. $4\overline{)96}$
10. $5\overline{)85}$
11. $2\overline{)92}$
12. $3\overline{)93}$
13. $4\overline{)72}$
14. $3\overline{)87}$
15. $2\overline{)56}$

LONG DIVISION PUZZLE

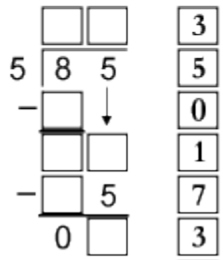




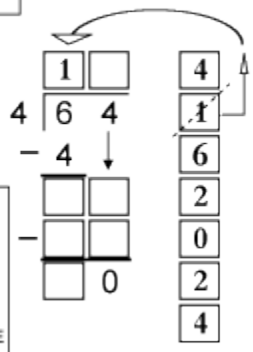
1.



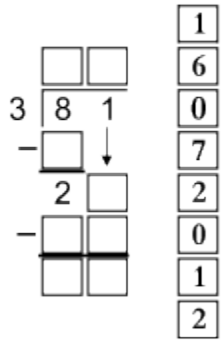
3.



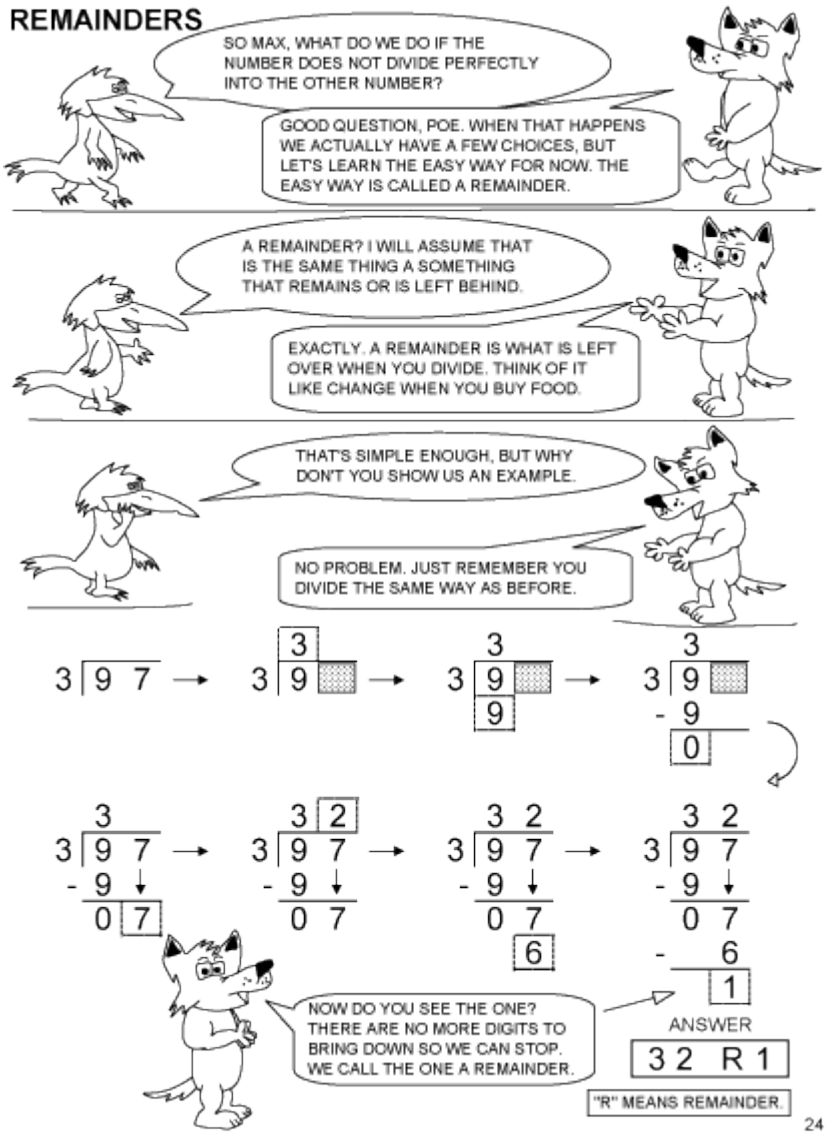
2.



4.

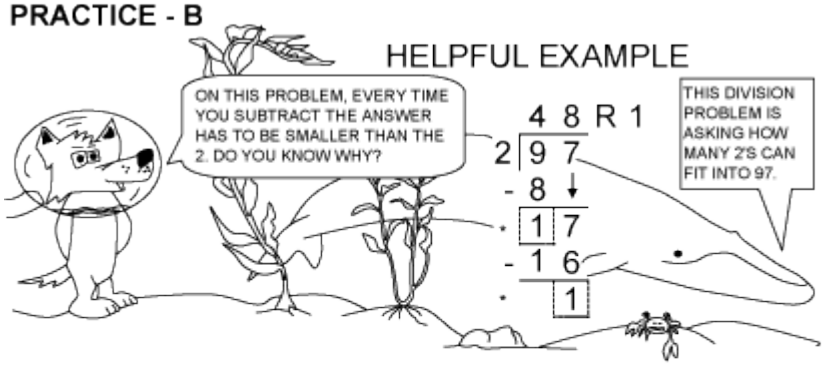


REMAINDERS


SO MAX, WHAT DO WE DO IF THE NUMBER DOES NOT DIVIDE PERFECTLY INTO THE OTHER NUMBER?
GOOD QUESTION, POE. WHEN THAT HAPPENS WE ACTUALLY HAVE A FEW CHOICES, BUT LET'S LEARN THE EASY WAY FOR NOW. THE EASY WAY IS CALLED A REMAINDER.
A REMAINDER? I WILL ASSUME THAT IS THE SAME THING A SOMETHING THAT REMAINS OR IS LEFT BEHIND.
EXACTLY. A REMAINDER IS WHAT IS LEFT OVER WHEN YOU DIVIDE. THINK OF IT LIKE CHANGE WHEN YOU BUY FOOD.
THAT'S SIMPLE ENOUGH, BUT WHY DON'T YOU SHOW US AN EXAMPLE.
NO PROBLEM. JUST REMEMBER YOU DIVIDE THE SAME WAY AS BEFORE.
3 | 9 7 → 3 | 9 □ → 3 | 9 □ (9) → 3 | 9 □ (- 9, 0)
3 | 9 7 (- 9, 0 7) → 3 | 9 7 (- 9, 0 7) → 3 | 9 7 (- 9, 0 7, 6) → 3 | 9 7 (- 9, 0 7, - 6, 1)
NOW DO YOU SEE THE ONE? THERE ARE NO MORE DIGITS TO BRING DOWN SO WE CAN STOP. WE CALL THE ONE A REMAINDER.
ANSWER
3 2 R 1
"R" MEANS REMAINDER.

PRACTICE - B

HELPFUL EXAMPLE



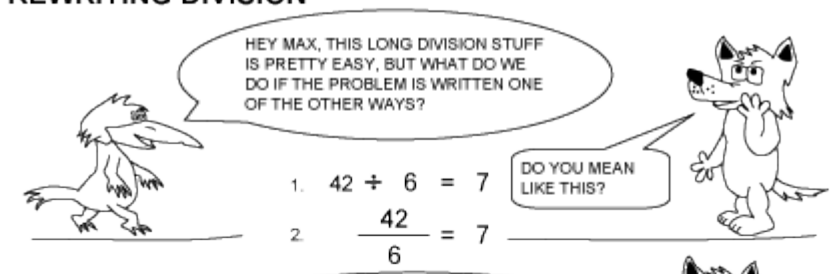
1. $2\overline{)67}$ 2. $4\overline{)95}$ 3. $7\overline{)99}$ 4. $3\overline{)73}$

5. $4\overline{)86}$ 6. $2\overline{)77}$ 7. $3\overline{)83}$ 8. $6\overline{)91}$

9. $2\overline{)59}$ 10. $4\overline{)63}$ 11. $2\overline{)91}$ 12. $3\overline{)82}$

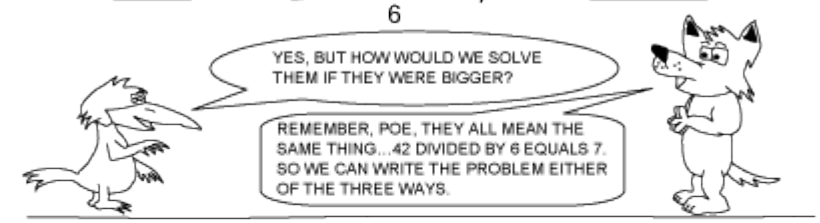
13. $5\overline{)78}$ 14. $7\overline{)87}$ 15. $3\overline{)59}$ 16. $2\overline{)75}$

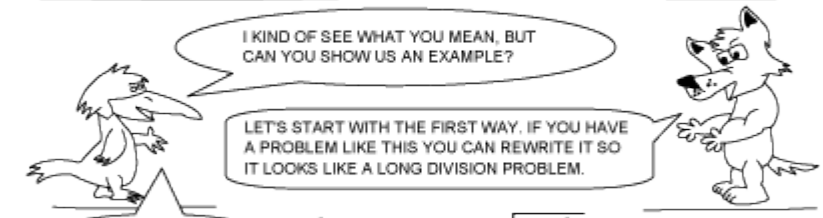
REWRITING DIVISION



1. $42 \div 6 = 7$

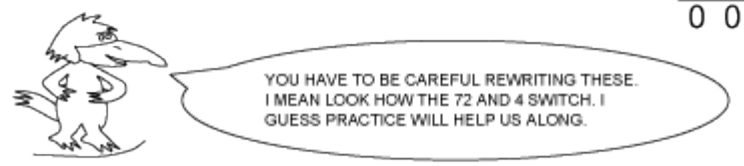
2. $\frac{42}{6} = 7$





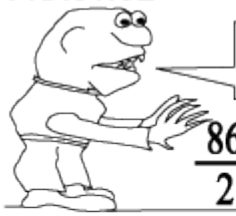
$72 \div 4 = 4\overline{)72}$

$$4\overline{)72} \Rightarrow \begin{array}{r} 1 \\ 4\overline{)72} \\ -\,4 \\ \hline 3 \end{array} \Rightarrow \begin{array}{r} 1 \\ 4\overline{)72} \\ -\,4\downarrow \\ \hline 32 \end{array} \Rightarrow \begin{array}{r} 18 \\ 4\overline{)72} \\ -\,4 \\ \hline 32 \\ -\,32 \\ \hline 00 \end{array} \Rightarrow 4\overline{)72}$$



PRACTICE

HELPFUL EXAMPLE



I COULD DO THIS ALL DAY LONG. THEY JUST FALL OVER LIKE DOMINOS. NOW YOU TRY…JUST REMEMBER TO KNOCK THEM OVER AND THEN DIVIDE.

$\frac{86}{2}$ → $2\overline{)86}$ ⇨ $2|86$ ⇨ $2\overline{|86}$ ⇨

$$\begin{array}{r} 43 \\ 2\overline{)86} \\ -\,8\downarrow \\ \hline 06 \\ -\,6 \\ \hline 0 \end{array}$$

1. $\frac{89}{3} =$ ⌐‾‾ 2. $\frac{76}{4} =$ ⌐‾‾

3. $\frac{65}{2} =$ ⌐‾‾ 4. $\frac{97}{5} =$ ⌐‾‾ 5. $\frac{85}{4} =$ ⌐‾‾

6. $\frac{78}{3} =$ ⌐‾‾ 7. $\frac{68}{4} =$ ⌐‾‾ 8. $\frac{98}{7} =$ ⌐‾‾

9. $\frac{75}{2} =$ ⌐‾‾ 10. $\frac{90}{6} =$ ⌐‾‾ 11. $\frac{57}{3} =$ ⌐‾‾

PRACTICE - C

BEFORE WE MOVE ON, LET'S DO ONE PAGE WITH ALL THREE TYPES OF DIVISION AND A MATH ART PAGE.

HERE ARE A COUPLE OF EXAMPLES TO HELP YOU ALONG.

$594 \div 4 = 4\overline{)594}$

$\frac{289}{3} = 3\overline{)289}$

1. $432 \div 5 =$

2. $814 \div 3 =$

3. $\frac{315}{2} =$

4. $\frac{241}{5} =$

5. $570 \div 3 =$

6. $675 \div 9 =$

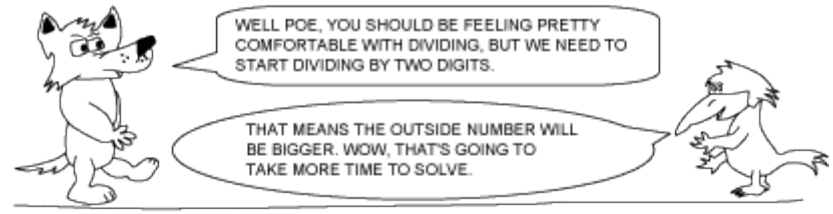
7. $\frac{724}{4} =$

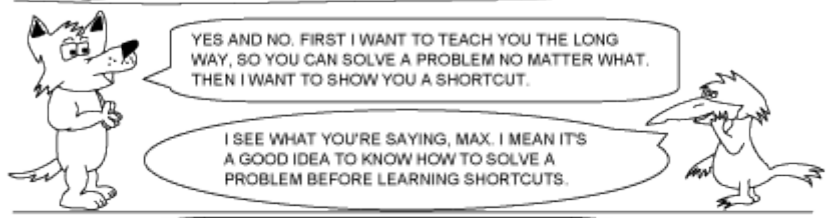
8. $\frac{643}{7} =$

9. $428 \div 2 =$

10. $\frac{931}{8} =$

DIVIDING BY TWO DIGITS





$$34\overline{)952} \rightarrow \begin{array}{r} 0 \\ 34\overline{)952} \\ -\,0 \\ \hline 9 \end{array} \rightarrow \begin{array}{r} 0 \\ 34\overline{)952} \\ -\,0\downarrow \\ \hline 95 \end{array}$$

JUST LIKE BEFORE, WE NEED TO LOOK AT ONE NUMBER AT A TIME. AS YOU CAN SEE I COVERED UP THE 5 AND 2.

SINCE THE 9 IS WAY TOO SMALL I PUT A **0** ABOVE THE 9. **0** X 34 = **0**.

THEN I BRING DOWN THE 5 AND START OVER.

$$\begin{array}{r} 0 \\ 34\overline{)952} \\ -\,0 \\ \hline 95 \end{array} \rightarrow \begin{array}{r} 02 \\ 34\overline{)952} \\ -\,0 \\ \hline 95 \\ -\,68 \\ \hline 27 \end{array} \rightarrow \begin{array}{r} 02 \\ 34\overline{)952} \\ -\,0 \\ \hline 95 \\ -\,68\downarrow \\ \hline 272 \end{array} \rightarrow \begin{array}{r} 028 \\ 34\overline{)952} \\ -\,0 \\ \hline 95 \\ -\,68 \\ \hline 272 \\ -\,272 \\ \hline 000 \end{array}$$

NOW WE NEED TO FIND OUT WHAT TIMES 34 COMES CLOSE TO 95 WITHOUT GOING OVER. LET'S LIST SOME MULTIPLES OF 34.

34 X 1 = 34	34 X 2 = 68	1 34 X 3 = 102

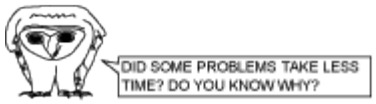
TOO BIG →

WE BRING DOWN THE 2 AND FIND OUT WHAT TIMES 34 COMES CLOSE TO 272 WITHOUT GOING OVER. LET'S LIST SOME MORE MULTIPLES OF 34.

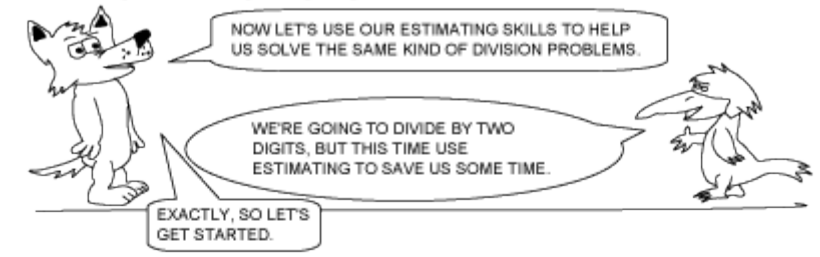
1 34 X 4 = 136	2 34 X 5 = 170	2 34 X 6 = 204	2 34 X 7 = 238	3 34 X 8 = 272

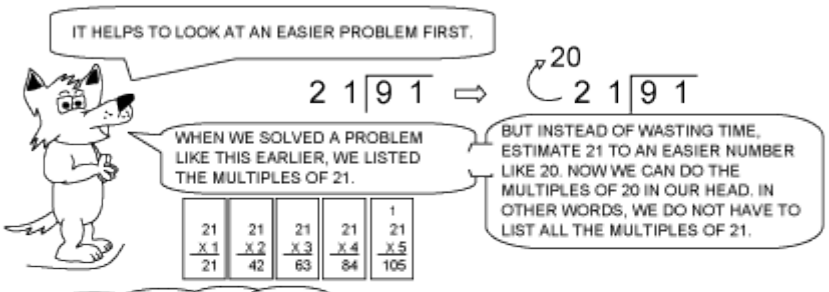
PRACTICE - B

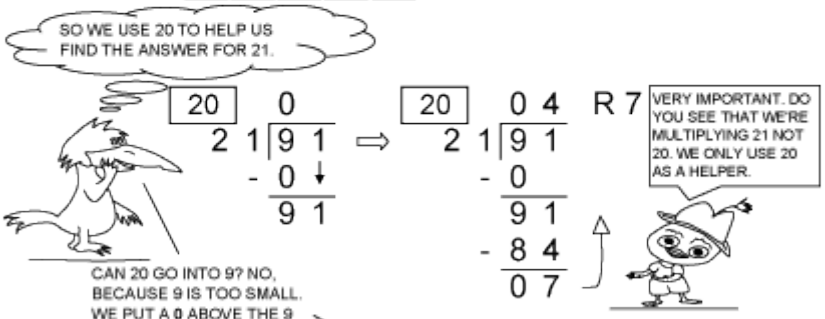
1. $30\overline{)971}$
2. $46\overline{)644}$
3. $23\overline{)885}$
4. $67\overline{)603}$
5. $10\overline{)899}$
6. $19\overline{)458}$
7. $29\overline{)742}$
8. $25\overline{)625}$
9. $70\overline{)613}$
10. $31\overline{)839}$
11. $20\overline{)956}$
12. $42\overline{)894}$
13. $60\overline{)857}$
14. $38\overline{)950}$
15. $81\overline{)382}$



DIVIDING BY TWO DIGITS







PRACTICE - B

1. $32\overline{)775}$

2. $47\overline{)563}$

3. $19\overline{)675}$

4. $40\overline{)972}$

5. $23\overline{)483}$

6. $68\overline{)283}$

7. $26\overline{)640}$

8. $51\overline{)746}$

9. $20\overline{)642}$

10. $63\overline{)714}$

11. $38\overline{)860}$

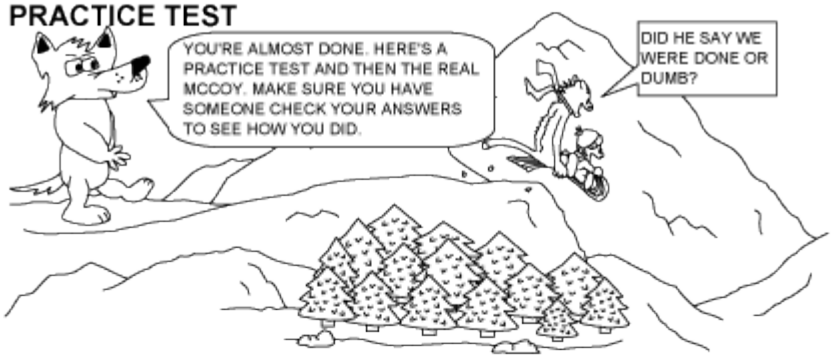
12. $33\overline{)705}$

13. $80\overline{)967}$

14. $12\overline{)498}$

15. $59\overline{)832}$

PRACTICE TEST



1. $96 \div 6$ 2. $\frac{73}{3}$ 3. $80 \div 4$ 4. $\frac{91}{2}$

5. $5\overline{)895}$ 6. $4\overline{)926}$ 7. $7\overline{)977}$ 8. $3\overline{)882}$

9. $40\overline{)872}$ 10. $21\overline{)684}$ 11. $33\overline{)941}$

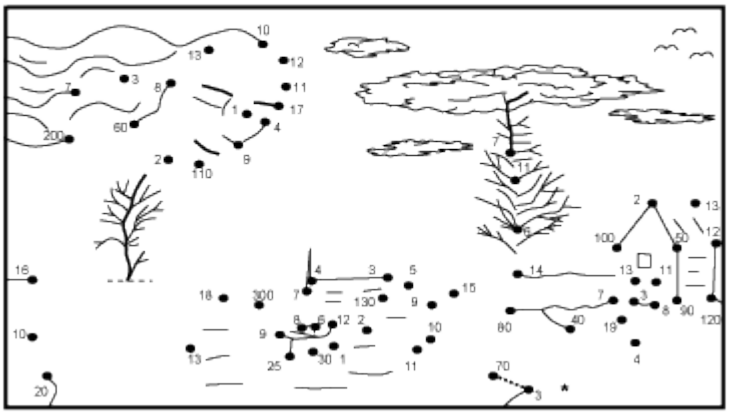
12. $57\overline{)741}$ 13. $38\overline{)840}$ 14. $16\overline{)876}$

YOUR SCORE:____ OUT OF **14** HOW YOU DID: 12-14 = ✍ / 10-11 = ☺ / 9 OR LESS = ?

EXTRA PRACTICE - A

1. 72 ÷ 8 = 9	2. 9 X 8 = 72	3. 4 X 8 = ☐
4. 16 ÷ ☐ = 4	5. ☐ X 6 = 36	6. 42 ÷ 7 = ☐
7. 5 X 10 = ☐	8. 7 X ☐ = 49	9. 60 ÷ ☐ = 6
10. 32 ÷ ☐ = 4	11. 12 ÷ 3 = ☐	12. ☐ X 9 = 18
13. ☐ ÷ 6 = 6	14. 13 X ☐ = 78	15. 64 ÷ ☐ = 8
16. 13 X ☐ = 169	17. ☐ X 5 = 45	18. 72 ÷ 9 = ☐
19. ☐ ÷ 10 = 4	20. ☐ X 12 = 96	21. ☐ ÷ 4 = 6
22. 7 ÷ ☐ = 7	23. 11 X 11 = ☐	24. 6 X 8 = ☐
25. ☐ X 9 = 54	26. 54 ÷ ☐ = 6	27. 11 X ☐ = 77
28. 65 ÷ ☐ = 5	29. ☐ X 5 = 65	30. ☐ ÷ 4 = 7
31. 18 ÷ 9 = ☐	32. 9 X ☐ = 18	33. 11 X 12 = ☐
34. ☐ X 8 = 32	35. ☐ ÷ 12 = 7	36. 3 X ☐ = 33
37. 48 ÷ ☐ = 8	38. 7 ÷ 7 = ☐	39. ☐ X 7 = 7

DIRECTIONS: EXTRA PRACTICE - B 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. BE **CAREFUL** SOME NUMBERS REPEAT.
NOTE: PATTERNS ARE **NOT** CONNECTED TOGETHER.

PATTERN #1	PATTERN #2	PATTERN #3	PATTERN #4
21 ÷ 7 = 3	600 ÷ 3 = ____	60 ÷ 3 = ____	120 ÷ 3 = ____
280 ÷ 4 = 70	360 ÷ 6 = ____	169 ÷ 13 = ____	38 ÷ 2 = ____
121 ÷ 11 = ____	22 ÷ 11 = ____	120 ÷ 12 = ____	36 ÷ 9 = ____
70 ÷ 7 = ____	770 ÷ 7 = ____	600 ÷ 2 = ____	480 ÷ 4 = ____
4 ÷ 2 = ____	72 ÷ 8 = ____	36 ÷ 2 = ____	450 ÷ 5 = ____
640 ÷ 8 = ____	3 ÷ 3 = ____	70 ÷ 10 = ____	56 ÷ 7 = ____
117 ÷ 13 = ____	48 ÷ 12 = ____	24 ÷ 3 = ____	33 ÷ 3 = ____
150 ÷ 10 = ____	34 ÷ 2 = ____	81 ÷ 9 = ____	143 ÷ 11 = ____
390 ÷ 3 = ____	110 ÷ 10 = ____	50 ÷ 2 = ____	36 ÷ 12 = ____
25 ÷ 5 = ____	84 ÷ 7 = ____	300 ÷ 10 = ____	28 ÷ 4 = ____
6 ÷ 2 = ____	120 ÷ 12 = ____	7 ÷ 7 = ____	100 ÷ 1 = ____
28 ÷ 2 = ____	156 ÷ 12 = ____	108 ÷ 9 = ____	200 ÷ 4 = ____
78 ÷ 13 = ____	40 ÷ 5 = ____	36 ÷ 6 = ____	132 ÷ 11 = ____
44 ÷ 4 = ____	9 ÷ 3 = ____	12 ÷ 3 = ____	26 ÷ 2 = ____
91 ÷ 13 = ____	77 ÷ 11 = ____	160 ÷ 10 = ____	12 ÷ 6 = ____
LINE ENDS	LINE ENDS	LINE ENDS	LINE ENDS