

Divisibility by 2, 4, & 8

RAPID PRACTICE

Place a checkmark in the box if the top number is divisible by the number next to the box.

Do you notice a pattern? Why?

1) **1209**

by 2	<input type="checkbox"/>
by 4	<input type="checkbox"/>
by 8	<input type="checkbox"/>

2) **1422**

by 2	<input type="checkbox"/>
by 4	<input type="checkbox"/>
by 8	<input type="checkbox"/>

3) **22412**

by 2	<input type="checkbox"/>
by 4	<input type="checkbox"/>
by 8	<input type="checkbox"/>

4) **109000**

by 2	<input type="checkbox"/>
by 4	<input type="checkbox"/>
by 8	<input type="checkbox"/>

5) **18001**

by 2	<input type="checkbox"/>
by 4	<input type="checkbox"/>
by 8	<input type="checkbox"/>

6) **3918**

by 2	<input type="checkbox"/>
by 4	<input type="checkbox"/>
by 8	<input type="checkbox"/>

7) **17984**

by 2	<input type="checkbox"/>
by 4	<input type="checkbox"/>
by 8	<input type="checkbox"/>

8) **1000000**

by 2	<input type="checkbox"/>
by 4	<input type="checkbox"/>
by 8	<input type="checkbox"/>

9) **21384**

by 2	<input type="checkbox"/>
by 4	<input type="checkbox"/>
by 8	<input type="checkbox"/>

10) **2846**

by 2	<input type="checkbox"/>
by 4	<input type="checkbox"/>
by 8	<input type="checkbox"/>

11) **13847**

by 2	<input type="checkbox"/>
by 4	<input type="checkbox"/>
by 8	<input type="checkbox"/>

12) **400004**

by 2	<input type="checkbox"/>
by 4	<input type="checkbox"/>
by 8	<input type="checkbox"/>

► TRY IT YOURSELF!

You can practice divisibility with any number you can dream! Is your age divisible by 2, 4, or 8? How about your parents' phone numbers? What about the street number in your address? The sky is the limit!

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WORD PROBLEMS

Complete the following word problems. If the words are confusing you, focus first on the numbers. You may find it easier to check all of the numbers' divisibility first!

Problem #1

Leanne recently purchased 164 roses that need to be arranged in vases. She can place the roses in vases that hold either 2, 4, or 8 flowers. What is the minimum number of vases she needs to use if she wants to place all the roses in the vases evenly?

Problem #2

Shirley challenges Miriam to a guessing game, to guess how many girls signed up to participate in GAIM 2020, assuming each team had exactly 4 girls. In the final round, Miriam has three digits out of four— "162_" (one thousand, six hundred, and twenty-something), but she only has one question and guess left. Miriam asks whether the *number of teams* was even or odd. Shirley says "even" and then Miriam answers and wins the game. How many girls signed up to participate in GAIM 2020?

Problem #3

Shirley's Breakfast Café is most popular at noon. When the staff arrives at 8am, only the bar is open as the staff prepare for the day. Then, every 1 hour, one waiter arrives and begins working. At exactly noon, all 4 waiters are working. At 1pm, the first waiter to begin working leaves, and each hour thereafter the next to work leaves, and so on. The last waiter leaves when they close the restaurant at 4pm. After 2358 hours of operation, how many waiters are working?

TRY IT YOURSELF!

Word problems help you contextualize what you've learned. Can you come up with your own? Try and think about when you may be able to use divisibility in the future!

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ANSWER KEY

Rapid Practice

1) **7920**

by 2
by 4
by 8

2) **1422**

by 2
by 4
by 8

3) **22412**

by 2
by 4
by 8

4) **109000**

by 2
by 4
by 8

5) **18001**

by 2
by 4
by 8

6) **3918**

by 2
by 4
by 8

7) **17984**

by 2
by 4
by 8

8) **1000000**

by 2
by 4
by 8

9) **21384**

by 2
by 4
by 8

10) **2846**

by 2
by 4
by 8

11) **13847**

by 2
by 4
by 8

12) **400004**

by 2
by 4
by 8

Word Problems

Problem #1

41 vases

Problem #2

1624 girls

Problem #3

2 waiters