

Daily *warm-ups*



LOGIC

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The *Daily Warm-Ups series* is a wonderful way to turn extra classroom minutes into valuable learning time. The 180 quick activities—one for each day of the school year—review, practice, and teach the principles of logic. These daily activities may be used at the very beginning of class to get students into learning mode, near the end of class to make good educational use of that transitional time, in the middle of class to shift gears between lessons—or whenever else you have minutes that now go unused. In addition to providing students with interesting logic problems, they are a natural path to other classroom activities involving critical thinking.

Daily Warm-Ups are easy-to-use reproducibles—simply photocopy the day’s activity and distribute it. Or make a transparency of the activity and project it on the board. You may want to use the activities for extra-credit points or as a check on the logical and critical-thinking skills that are built and acquired over time.

However you choose to use them, *Daily Warm-Ups* are a convenient and useful supplement to your regular lesson plans. Make every minute of your class time count!



Daily Warm-Ups: Logic

Birthday

Katya, a senior in high school, claims that her mother has only celebrated ten birthdays. If this is true, what is the date of her mother's birthday?



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Impossible Grip

Consider the following challenge: You must take something in your right hand that you can't possibly take in your left hand. What is this thing, and how is the challenge done?



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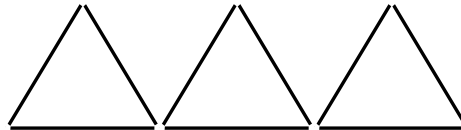




Daily Warm-Ups: Logic

Three into Four

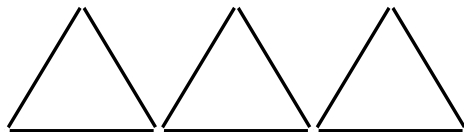
The arrangement of lines below forms three triangles. Move two lines (by striking out and redrawing) so that the arrangement forms four triangles of equal size.



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Four Out of Three

The arrangement of lines below forms three triangles. Move three lines (by striking out and redrawing) so that the arrangement forms four triangles of equal size.



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Daily Warm-Ups: Logic

Predicting the Weather

It rained all day yesterday, and it is raining now at midnight. Considering that it rains less than one fourth of the time during this season of the year, do you feel that there is a good chance that it will be a sunny day in seventy-two hours? Answer this question with a *yes* or *no*, and justify your answer.

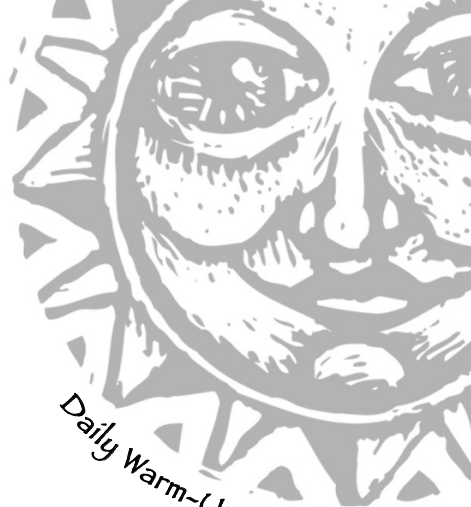
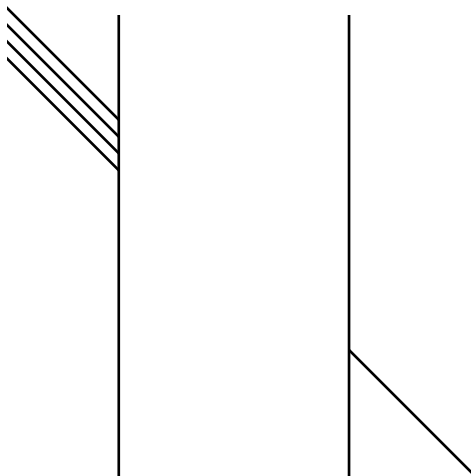


Seeing Is Believing?

If someone told you that the top line on the left of the figure below is the one extended on the right, would you believe it? How could you find out whether this is true?



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Daily Warm-Ups: Logic



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The Mismatched Fruit Baskets

Three baskets in a fruit market are marked *Oranges*, *Grapefruit*, and *Oranges and Grapefruit*. Suppose that you cannot see the fruit in the baskets, but you are told that each basket is marked incorrectly. However, the baskets *collectively* contain the fruits described on the labels.

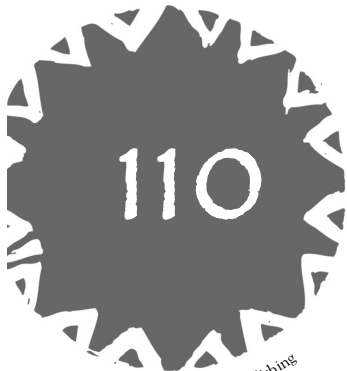
You can select only one piece of fruit from only one of the baskets. From the single piece of fruit that you select, how would you know enough to be able to relabel each basket correctly?



A Test of Honesty

A man is known to do one of the following: (1) always tell the truth, (2) never tell the truth, or (3) make statements that are alternately true and false, or false and true.

In two questions, each answered by a *Yes* or a *No*, how might you determine whether this man tells the truth, is a liar, or alternates with true and false answers?





Daily Warm-Ups: Logic

Students and Their Chosen Professions

Dan, Leah, Max, Nina, and Satia are freshman, sophomore, junior, senior, and graduate students in economics, education, medicine, ministry, and law, but not necessarily in that order. The following facts are known about the students:

1. Leah will become an intern next year.
2. Dan and the sophomore ministry student room together.
3. Nina is in a higher class than Dan.
4. The education student graduated from the same high school as Dan and Max.
5. Satia is in law school.

Identify the students according to profession and class in school (assuming no coed dorms).



Naming the Ships

A passenger ship, a tanker, and a cargo ship are named *S. S. Adams*, *S. S. Kennedy*, and *S. S. Monroe*, but not respectively. Their ports of departure and destinations are Boston, Charleston, London, Miami, New York, and Philadelphia, listed alphabetically. The following facts are known about the ships:

1. The *S. S. Kennedy* arrived in Boston on the same day the passenger ship left London.
2. The *S. S. Adams* left Philadelphia with a cargo of steel and did not go to New York, although one of the others did.
3. The tanker met the ship going to Miami.

What are the names of the cargo ship, the passenger ship, and the tanker, and what are their respective ports of departure and destinations?

