Presidential Playing Field

The president of the United States is elected by the electoral college. States with large populations have more electoral votes than states with small populations.

The candidate who receives the greatest number of popular votes in a state usually gets all of the state’s electoral votes. To become president, a candidate must receive a majority (more than half) of the electoral votes. Since 1964 (when Washington, D.C., was added to the electoral college), the total number of electoral votes has been 538.

Electoral Votes for President
(based on the 2010 Census)

1. How many more electoral votes does New York (NY) have than New Jersey (NJ)?

2. How many fewer electoral votes does Florida (FL) have than Texas (TX)?

3. In 1944, California (CA) had only 25 electoral votes. How many electoral votes has it gained since then?

4. The six states with the most electoral votes are California, Texas, New York, Florida, Pennsylvania (PA), and Illinois, (IL).
   a. How many electoral votes do these six states have in all?
   b. How many electoral votes do the rest of the 44 states and Washington, D.C., have in all?
Use this table of selected presidential results to answer Questions 5–11.

5. a. In 1888, who had more popular votes? __________
   b. How many more? __________
   c. Who had more electoral votes in 1888? __________
   d. How many more? __________
   e. Who won the 1888 election? __________

6. In which election year were the top two candidates closest in the . . .
   a. number of popular votes received? ______________________
   b. number of electoral votes received? ______________________

7. Recall that 538 electoral votes are cast, and a *majority* of them are needed to win. What is the *fewest* number of electoral votes a candidate can have and still win: 268, 269, 270, or 271? __________

8. In 1992, a total of 104,426,659 popular votes were cast for all candidates. How many popular votes were not cast for Bill Clinton? __________

9. In 2000, suppose Gore (instead of Bush) had won New Hampshire’s 4 electoral votes. Would that have given Gore enough electoral votes to win the election? __________


11. In 2012, a total of 1,000,812 more popular votes were cast for the top two candidates than in 2008. How many total popular votes were cast for the top two candidates in 2008? __________
Can You Make the Change?

Here is how you can make change for a customer in a store:

a. Begin with the amount due.

b. Add amounts until reaching the amount given to you by the customer.

c. Use the fewest possible pennies, nickels, dimes, quarters, and bills.

1. Suppose the amount due is $0.32, and the amount given to you is $1. In making change, you give the customer 3 pennies and say, “$0.35.” Then you give the customer 1 nickel and say, “$0.40.”

Then you give the customer ________ dime and say, “________.”
Finally, you give the customer ________ quarters and say, “________.”
The amount of change is $0.03 + $0.05 + $0.10 + $0.50, or $________.

Complete the following:

2. Amount due: $1.18
   Amount given to you: $2

<table>
<thead>
<tr>
<th>Change</th>
<th>What you say</th>
</tr>
</thead>
<tbody>
<tr>
<td>______ pennies ____________________________</td>
<td></td>
</tr>
<tr>
<td>______ nickel(s) __________________________</td>
<td></td>
</tr>
<tr>
<td>______ dime(s) ____________________________</td>
<td></td>
</tr>
<tr>
<td>______ quarter(s) __________________________</td>
<td></td>
</tr>
</tbody>
</table>

The amount of change is $ ________

<table>
<thead>
<tr>
<th>Amount Due</th>
<th>Amount Given to You</th>
<th>Change</th>
<th>Amount of Change</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>$0.01</td>
<td>$0.05</td>
</tr>
<tr>
<td>3. $2.37</td>
<td>$5.00</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>4. $0.84</td>
<td>$1.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. $0.29</td>
<td>$1.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. $2.33</td>
<td>$3.00</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>7. $1.78</td>
<td>$5.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. $4.02</td>
<td>$10.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. $5.41</td>
<td>$10.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. $14.58</td>
<td>$20.03</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Editor for a Day: Fractions

This page will be part of a mathematic book. Suppose you are the books editor. Your to correct all errors that you can find. Their are errors in math (the answers are given in bold type), spelling, grammer, and more. Have you already found some misteaks.

In 1–9, add, subtract, multiply, or divide. Write each answer is simplest form.

1. \( \frac{3}{10} + \frac{7}{10} = \frac{10}{20} = \frac{1}{2} \)
2. \( \frac{5}{8} - \frac{2}{4} = \frac{3}{8} \)
3. \( \frac{5}{6} \times \frac{5}{6} = \frac{25}{36} = \frac{5}{6} \)

4. \( \frac{5}{6} \div \frac{3}{4} = \frac{5}{6} \div \frac{3}{4} = \frac{5}{2} \times \frac{4}{1} = \frac{20}{2} = 10 \)
5. \( \frac{1}{2} \times \frac{1}{4} = \frac{6}{8} \)

6. \( \frac{4}{6} + \frac{1}{6} = \frac{5}{6} \times \frac{3}{8} = \frac{6}{24} = \frac{9}{24} \)
7. \( \frac{6}{8} + \frac{2}{24} = \frac{1}{4} = \frac{9}{12} \)
8. \( \frac{5}{3} - \frac{3}{4} = \frac{8}{12} \)
9. \( \frac{1}{4} = \frac{5}{3} \)

In 11–13, solve each problem.

10. This year, thanks to the affects of good whether profits at a garden shop were $3\frac{1}{2}$ million. This is $1\frac{5}{8}$ million more than the profits last year. What were the prophets last year?

11. A boss orders four pizzas to improve employe moral. The boss’ assumption is that each person will eat \( \frac{1}{8} \) pizza.
How many people will the four pizzas serve?

12. The principle’s office is rectangular. It has an area of 230 feet, with a with of 11\( \frac{1}{2} \) feet. Find the length of the office?
In Questions 1–3, use a centimeter ruler to find (a) each map distance to the nearest tenth centimeter. Then multiply each map distance by 80 to find (b) the land distance in kilometers.

1. Mummy’s Tomb to Wolfman’s Den
   a. __________ cm  
   b. __________ km

2. Wolfman’s Den to Dracula’s Coffin
   a. __________ cm  
   b. __________ km

3. Mummy’s Tomb to Frankenstein’s Castle
   a. __________ cm  
   b. __________ km

4. A monster is on the prowl! To find it, begin at Transylvania Station and go 240 km south. Then go 360 km northwest. Finally, go 280 km southwest. The monster is at ________________________________.

5. Find (a) the map distance from Chicago to Denver. Then find (b) the actual distance.
   a. ________________ (on map)  
   b. ________________ (actual)

6. What is the actual distance from San Francisco to Houston? ________

7. What is (a) the map distance from Los Angeles to Detroit to New York? What is (b) the actual distance of that trip?
   a. ________________ (on map)  
   b. ________________ (actual)
Planely Algebra

### United Airlines Flights Departing from Chicago

<table>
<thead>
<tr>
<th>Flight</th>
<th>Gate-to-Gate Minutes*</th>
<th>Miles</th>
</tr>
</thead>
<tbody>
<tr>
<td>to Boston</td>
<td>129</td>
<td>867</td>
</tr>
<tr>
<td>to Cleveland</td>
<td>65</td>
<td>316</td>
</tr>
<tr>
<td>to Dallas</td>
<td>128</td>
<td>802</td>
</tr>
<tr>
<td>to Denver</td>
<td>150</td>
<td>901</td>
</tr>
<tr>
<td>to Detroit</td>
<td>68</td>
<td>235</td>
</tr>
<tr>
<td>to Indianapolis</td>
<td>51</td>
<td>177</td>
</tr>
<tr>
<td>to Nashville</td>
<td>84</td>
<td>409</td>
</tr>
<tr>
<td>to New Orleans</td>
<td>125</td>
<td>837</td>
</tr>
<tr>
<td>to New York City</td>
<td>119</td>
<td>733</td>
</tr>
<tr>
<td>to Orlando</td>
<td>156</td>
<td>1,005</td>
</tr>
<tr>
<td>to Toronto</td>
<td>85</td>
<td>437</td>
</tr>
<tr>
<td>to Washington, DC</td>
<td>103</td>
<td>612</td>
</tr>
</tbody>
</table>

*This is the combined time a plane spends on the runways taxiing and the time it spends in flight.

1. Graph the data points from the table above. Use the grid on the next page. Graph the “Gate-to-Gate Minutes” as the \( x \) values; graph the “Miles” as the \( y \) values. Scale the \( x \)-axis in intervals of 10 minutes. Do not connect the points on the graph. The graph you are making is called a scatterplot.

2. Notice that the data points are close to being on a line. We can fit a line to the data by using a ruler to draw a line that comes as close as possible to as many dots as possible. Use a ruler to draw such a line. Extend the line so that it crosses the \( x \)-axis.

3. You can use your line to help make some predictions for flights not given in the table.
   - a. Estimate the miles for a flight that takes 170 gate-to-gate minutes.
   - b. Estimate the gate-to-gate minutes for a 500-mile flight.

4. a. Estimate how much change there is in the height of your line (along the \( y \)-axis) for every change of 10 minutes (along the \( x \)-axis). This will give you the approximate distance a plane travels in 10 minutes.
b. Divide your result in Question 4a by 10 to find the speed of a plane in miles per minute. This result, the change in the height of a line for every change of 1 unit to the right, is called the slope of the line.

5. a. What is the ordered pair for the point where your line crosses the $x$-axis? The $x$-coordinate of that point is called the $x$-intercept.

b. What are the airplanes doing during the time represented by the $x$-intercept?