


Commentary

Jupiter, XXIV

1. (**\$2.25**) Four weeks at a daily rate would be $\$0.35 \times 5 \times 4 = \7.00 . A 4-week subscription is \$4.75. $\$7.00 - \4.75 is \$2.25.
2. (**>**) $1/2 + 3/4$ is $5/4$ or $1 \frac{1}{4}$. $2/3 + 1/2$ is $4/6 + 3/6$ or $7/6$, or $1 \frac{1}{6}$. $1 \frac{1}{4}$ is greater than $1 \frac{1}{6}$ since $1/4$ is greater than $1/6$. Some students will get the answer by focusing on $3/4$ and $2/3$ -- since $1/2$ is part of each side, it can be ignored. $3/4 > 2/3$, so $1/2 + 3/4$ must be greater than $1/2 + 2/3$.
3. (**130,000**) $354 \times 365 = 129,210$. When rounded to the nearest ten thousand, the answer is 130,000.
4. (**18**) Students need to draw figures and look for rectangles of different sizes.
If,  = 1 unit, then
of 1 unit rectangles = 6
of 2 unit rectangles = 7
of 3 unit rectangles = 2
of 4 unit rectangles = 2
of 6 unit rectangles = 1
18 total
5. (**1 week 3 days 17 hours 50 minutes**) This problem involves "borrowing" in a non-base ten system. The time "4 weeks, 3 days, 13 hours, 21 minutes" can be rewritten as "3 weeks, 9 days, 36 hours, 81 minutes" so that the lower number can be subtracted.
6. (**18 and 17**) Students can find the answer by making a list of pairs of numbers that sum to 35, and comparing the products of those pairs. They will notice that the closer the numbers in the pairs become to each other, the higher the product.
7. (**P**) The pattern is not a numerical pattern, which will confuse some students. *M V E M J S U N P* represents the first letter of each of the planets in our solar system, in order of their position from the sun -- Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, Neptune, and Pluto. Many adults memorized a saying such as "My very educated mother just served us nine pickles" to remember this sequence.
8. (**15, 21, 28, 36**) Students may make a drawing of the next four triangular numbers, and count the dots. They will notice that each new figure in the pattern adds a row on the bottom, with one more dot in it than the previous figure.
9. (**a. about 25%; b. AB⁻; c. O⁻**) For part (a), students can turn the graph and readily see that A^+ is about $1/4$ or 25%. The most rare type is the one with the smallest area -- careful observation, or perhaps tracing the regions of each and comparing the tracing, shows that AB^- is slightly smaller than AB^+ . For (c), AB^+ is smaller than O^- , so the chances of O^- are greater.