



Math Olympiad and Problem Solving Programs
F110 - Introductory Problem Solving
Problem Set 10.1 - Multiplication and Division

Name:

Date:

1. $\boxed{52}$

2. $\boxed{1492}$

3. $\boxed{52}$

4. $\boxed{147}$

5. $\boxed{40}$

6. If the astronaut had x moon rocks then the alien has $x + 74$ moon rocks:

$$\begin{aligned}x + 21 &= \frac{1}{2}(x + 74) \\2x + 42 &= x + 74 \\x &= 32\end{aligned}$$

So the astronaut had 32 moon rocks and the alien had $32 + 74 = \boxed{106}$ moon rocks.

7. $\boxed{1542}$

8. If Elephant had x peanuts then Goat had $x - 66$ peanuts. After Elephant gives 17 peanuts to Goat, Elephant will have $x - 17$ peanuts and Goat will have $(x - 66) + 17 = x - 66 + 17 = x - 49$ peanuts.

$$\begin{aligned}x - 17 &= 2(x - 49) && (1) \\x - 17 &= 2x - 98 && (2) \\x &= 81 && (3)\end{aligned}$$

Notice that line (2) is an application of the distributive property. Elephant had 81 peanuts to begin with and has $81 - 17 = \boxed{64}$ peanuts now.

9. $\boxed{68}$

10. $\boxed{329}$