1.

Unit 6: Patterns

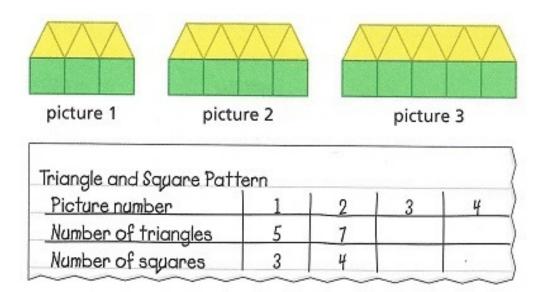
string. (a) How many triangles will be in Savannah's bracelet if she has 15 blue beads? How many triangles will (b) be in Savannah's bracelet if she has 12 red beads? 2. Jesse is doing yard work. He gets paid \$18 for raking the lawn, as well as \$3 for every bag of leaves he fills. How much money will Jesse make for raking and filling 8 bags of leaves? Shanti had 75¢ in nickels. She gave a nickel to each of her cousins. She 3. started the following pattern to show what she did: 75, 70, 65, 60, 55,... What is Shanti's pattern rule? (a) (b) If Shanti gave away all of her nickels, how many cousins does she have? How do you know?

Savannah is making a bracelet using long blue beads, round red beads, and

4. Solve the following equation using the **Inverse Method**:

$$n - 14 = 21$$

5. Max made a table to show the number of triangles and the number of squares in these pictures.



- (a) Complete the table of values.
- (b) What is the pattern rule for the number of triangles?
- (c) What is the pattern rule for the number of squares?
- (d) How many triangles will be in Picture 6?
- (e) How many squares will be in Picture 6?

| 6. | Write an expression for each situation: | | | | | | | | | | |
|----|---|-----------------------------------|-----------|--|----------|------------|------------|------------|------------|-------|-------------|
| | (a) | Six more | e than a | numb | er | | | | | | |
| | (b) | Fourteer | ı less th | ıan a nı | ımber | | | | | | |
| | (c) | Twenty | more th | nan a n | umber | | | | | | |
| | (d) | Eleven le | ess thai | n a nun | nber | | | | | | |
| 7. | sticke | ce had so rs. How this prob | many s | | _ | | | • | | | |
| | | | | | | | | | | | |
| 8. | | made this | × | n with the w | coothpi | cks. | shape | 3 | | | |
| | (a) (b) | How ma | ıny too | th pick | s will h | e need | to mak | - | | _ | |
| | | Shape 1 | Shape | Shape 3 | Shape | Shape 5 | Shape 6 | Shape 7 | Shape 8 | Shape | Shape 10 |

| | Shape 1 | Shape 2 | Shape 3 | Shape 4 | Shape 5 | Shape 6 | Shape 7 | Shape 8 | Shape 9 | Shape 10 |
|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|-------------|
| Squares | 1 | 2 | 3 | | | | | | | |
| Toothpicks | 6 | 11 | 16 | | | | | | | |