**Solve for each equation in questions 1-15.**

|  |  |  |
| --- | --- | --- |
| 1. $x+3=7$
 | 1. $-4+x=10$
 | 1. $4x=32$
 |
| 1. $\frac{x}{7}=4$
 | 1. $x-3=12$
 | 1. $8-2x=10$
 |
| 1. $\frac{x}{2}+4=20$
 | 1. $2x+6=5-8x$
 | 1. $x=2x+7$
 |
| 1. $3x-9=8(x-3)$
 | 1. $2\left(x+3\right)=4(x-2)$
 | 1. $\frac{2x+2}{8}=2x+3$
 |
| 1. $\frac{2(x-4)}{5}=12$
 | 1. $\left(\frac{x+5}{6}\right)-1=-4$
 | 1. $\frac{4x-6+2x}{7}=4$
 |

1. The lengths of the sides of a triangle are x, 2x + 1, 5x + 4 inches. If the perimeter is 53 inches, what is the value of x?
2. Membership to a video game club is $50 a year and $3 per game rented. At the end of the year Harvey had spent $296. How many games had he rented?
3. The cost of renting a jet ski is $40 per day plus $50 per hour of use. How many hours was a jet ski rented if the total cost was $390?
4. Sasha spent half of her allowance going to the movies. She mowed her neighbor’s yard and earned 15 dollars. What is her weekly allowance if she ended with 20 dollars?
5. Janet had one hundred and seventy eight dollars to spend on three pairs of shoes. After buying them she had twelve dollars. How much did each pair cost?
6. The sum of two consecutive even integers is 26. What is the smallest integer?
7. The sum of two consecutive even integers is 214. What is the largest integer?
8. The sum of three consecutive even integers is 54. What is the largest integer?
9. The sum of three consecutive integers is 513. What are the integers?
10. The sum of three consecutive odd integers is 339. What are the integers?

**Solve each of the inequalities and graph them on a number line.**

|  |  |
| --- | --- |
| 1. $x+3\leq -9$
 | 1. $x-17>-16$
 |
| 1. $\frac{x}{4}<-4$
 | 1. $-3x>3$
 |
| 1. $-8>x-3$
 | 1. $-x-4x>-10$
 |
| 1. $6-4(6x+7)\geq 122$
 | 1. $-8x+2x-16<-5x+7x$
 |
| 1. $28-x\geq 7(x-4)$
 | 1. $-6\left(1+7x\right)+7\left(1+6x\right)\leq -2$
 |

**For each sequence below, give the initial term, common difference, recursive equation, explicit equation, and next two terms in the sequence.**

|  |  |  |
| --- | --- | --- |
| 1. $-5, -2, 1, 4, … $

$$a\_{1}=$$$$d=$$Recursive: Explicit: Next two terms:  | 1. $-6, -10, -14, -18, …$

$$a\_{1}=$$$$d=$$Recursive: Explicit: Next two terms: | 1. $18, 7, -4, -15,…$

$$a\_{1}=$$$$d=$$Recursive: Explicit: Next two terms: |

1. Viola makes gift baskets for Valentine’s Day. She has 145 baskets left over from last year, and she plans to sell 7 each day. How many baskets will she have on the 11th day?
2. Jerry deposited $10,000 on an investment that will give $3,750 for every year that his money stays in the account. How much money will he have in his account by the end of year 14?