

Jack's second test score was 4 points higher than his first score. His third score was 86. He had a B average on his tests (between 80 and 89, inclusive) for the three tests. What can you conclude about the first test score?

Find all sets of four consecutive even integers whose sum is between 60 and 80.

- The length of a rectangle is 3 cm more than twice its width. Find the largest possible width if the perimeter is at most 66 cm.
- The length of a leg of an isosceles triangle is twice the length of the base. What is the minimum length of the base if the perimeter is at least 20 cm?
- Find all sets of four consecutive integers whose sum is between 95 and 105.
- Ellen's first three test scores were consecutive *odd* integers. Her fourth score was 83. She had a B- average (between 80 and 82, inclusive) for the four tests. What was her lowest test score?

### Mixed Review Exercises

Solve each open sentence and graph each solution set that is not empty.

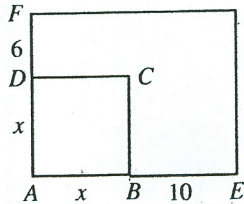
- $2x - 3 > -7$
- $0.5p \leq 1$  and  $p + 1 \geq -2$
- $3(n - 1) > 2 - 3(1 - n)$
- $-2y < -8$  or  $1 + 2y < 3$
- $5 - 2d < 3$
- $-2 > 1 - 2x > -6$

Evaluate if  $a = -2$  and  $b = 5$ .

- $|a - b|$
- $|a| - |b|$
- $|ab|$
- $|b| - |a|$

1. For the Hawks' 80 basketball games next year, you can buy separate tickets for each game at \$9 each, or you can buy a season ticket for \$580. At most how many games could you attend at the \$9 price before spending more than the cost of a season ticket?
2. The usual toll charge to use the Bingham tunnel is 50 cents. If you purchase a special sticker for \$5.50, the toll is only 35 cents. At least how many trips through the tunnel are needed before the sticker costs less than paying for each trip separately?
3. The length of a rectangle is 5 cm more than twice its width. Find the largest possible width if the perimeter is at most 64 cm.
4. The lengths of the legs of an isosceles triangle are integers. The base is half as long as each leg. What are the possible lengths of the legs if the perimeter is between 6 units and 16 units?
5. Find all sets of three consecutive *odd* integers whose sum is between 20 and 30.
6. Find all sets of three consecutive *even* integers whose sum is between 25 and 45.
7. Jeannie's scores on her first four tests were 80, 65, 87, and 75. What will she have to score on her next test to obtain an average of at least 80 for the term?
8. Jim's second test score was 8 points higher than his first score. His third score was 88. He had a B average (between 80 and 89, inclusive) for the three tests. What can you conclude about his first test score?

9. The sides  $\overline{AB}$  and  $\overline{AD}$  of a square are extended 10 cm and 6 cm, respectively, to form sides  $\overline{AE}$  and  $\overline{AF}$  of a rectangle. At most how long is the side of the square if the perimeter of the rectangle is at least twice the perimeter of the square?



10. The three sides of an equilateral triangle are increased by 20 cm, 30 cm, and 40 cm, respectively. The perimeter of the resulting triangle is between twice and three times the perimeter of the original triangle. What can you conclude about the length of a side of the original triangle?
11. The telephone company offers two types of service. With Plan A, you can make an unlimited number of local calls per month for \$18.50. With Plan B, you pay \$6.50 monthly, plus 10 cents for each min of calls after the first 40 min. At least how many min would you have to use the telephone each month to make Plan A the better option?