LESSON 2.1 WORKSHEET

Problem 1 :

Describe the pattern in the numbers 5, 15, 45, 135,...and write the next three numbers in the pattern.

Next three numbers are ☐, ☐, ☐ Edit

Problem 2 :

Describe the pattern in the numbers 6, 12, 24, 48,...and write the next three numbers in the pattern.

Next three numbers are ☐, ☐, ☐ Edit

Problem 3 :

Describe the pattern in the numbers 6, 10, 14, 18,...and write the next three numbers in the pattern.

Next three numbers are ☐, ☐, and ☐ Edit

Problem 4 :

Describe the pattern in the numbers 7, 9, 11, 13,...and write the next three numbers in the pattern.

Next three numbers are ☐, ☐, and ☐ Edit

Problem 5 :

Numbers such as 3, 4, and 5 are called *consecutive numbers*. Select a possible conjecture about the sum of any three consecutive numbers and test it.

○ A. **The sum of any three consecutive integers is less than three times the second number.**

○ B. The sum of any three consecutive integers is always a prime number

○ C. The sum of any three consecutive integers is always perfect square of the third number.

○ D. The sum of any three consecutive integers is three times the second number.

Problem 6 :

Tell whether the statement is *true* of *false.*
If an angle is a right angle, then it measures 90°.
If false, give a counterexample.

○ A. True. A counterexample is an acute angle.

○ B. False.

○ C. True.

○ D. False. A counterexample is an acute angle.

Problem 7 :

Tell whether the statement is *true* or *false.*
If $x^2 + x = 30$, then $x = 5$.
If false, give a counterexample.

○ A. False

○ B. True

○ C. True. A counterexample is −7.

○ D. False. A counterexample is 6.

Problem 8 :

Tell whether the statement is *true* or *false.*
If $x = -7$, then $x^2 = 49$.
If false, give a counterexample.

○ A. False

○ B. True. A counterexample is $x = 7$.

○ C. True

○ D. False. A counterexample is $x = 7$.

Problem 9 :

Tell whether the statement is *true* or *false*.
If *B* is 2 inches from *A* and 6 inches from *C*, then *A* is 8 inches from *C*.
If false, give a counterexample.

○ A. False. A counterexample is *A* is 4 inches from *C*.

○ B. False

○ C. True. A counterexample is *A* is 4 inches from *C*.

○ D. True

Problem 10 :

Make and test a conjecture about the sign of the product of any three negative integers.

○ A. The product of any three negative integers can be positive or negative.

○ B. The product of any three negative integers is always positive.

○ C. The product of any three negative integers is always negative.

○ D. The product of any three negative integers is always zero.

Problem 11 :

Use these sums of even integers:

$6 + 26 = 32$ $4 + 24 = 28$ $12 + 10 = 22$

Conjecture: The sum of any two even integers is

○ A. either even or odd.

○ B. always odd.

○ C. always even.

○ D. always zero.
