Mathematics 10C

Initial Skills Quiz

Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Instructions:

1. Show your work and circle your answer for each question.

2. All answers are to be in **simplest form**.

3. Calculators are allowed.

4. In addition, if there is a space on the left side of the question(s) \_\_\_ fill the space with a number between 1 and 6. The numbers mean:

1. I can always do this kind of question.
2. I can sometimes do this kind of question.
3. I find this question challenging but doable.
4. I find this question is a little beyond my abilities.
5. This type of question has always been hard for me.
6. Are you kidding?

**Number Systems**

1. Round 3.0846 to the nearest hundredth.

2. Find the difference between 9.2 and 7.6, then multiply that difference by 0.02.

3. 

4. 

5. A fish is split into its head, body and tail. If the head makes up  of its length and its body is  of its length, what fraction of its length is its tail?

6. 

7. Express  as a decimal.

8. Express the decimal 0.4 as a fraction.

9. Express 0.82 as a percent.

10. Express 65% as a reduced fraction.

11. What is 12% of 150 ?

12. 18 is what percent of 45?

13. A store offered a 15 % discount on a TV set. If the set was regularly priced at $600, what would the sale price be for this TV ?

14. A sales person makes $700 per month and also makes a 5 % commission on her sales. In May, she sold $ 4 000 worth of goods. What was her total earnings for May.

**Proportions**

15. Solve the following proportion for x: 

16. A girl on a skateboard travels 20 m in 8 seconds. How many meters will she travel in 20 seconds ?

**Exponents** (**Simplify** with all exponents in a positive format)

17. Evaluate: 25 18. (-3)3 19. a4 × a3 × a 20. (xy2)3

21.  22.  23. 

24. If , find the value of n.

**Equations** (**Solve** the following equations and inequalities for values of "x")

25. x + -13 = 25 26. -9x = 72 27. 3x + 4 = x − 6

28.  29. -2x – 3 > 5

**Polynomials**

Simplify:

30. x + 2y + 6x + 3y 31. (-6x + 4y) − (4x + 2y) 32. (3x3y)(4x2y)

33. 3x (2x − 4) 34. (x + 4)(x + 7) 35. 

Remove the greatest common factor:

36. 3x2y2 – 15xy +27y2 37. 3x2 + 15x + 18

**Triangles**

38. If a right triangle has sides of 12 cm and 5 cm, what is the length of the hypotenuse?

39. If a right triangle has a side with length 8 m and a hypotenuse with length 14 m, what is the length of the other side?

**Miscellaneous problems**

40. What is the next number in the sequence: 2, 4, 8, 14, 22, 32, … ?

41. When a number is doubled and decreased by 18, the result is 36. Find the number.

42. A traffic light is red for 30 s, green for 25 s and yellow for 5 s in every minute. What is the probability that the color is yellow when a person first sees the traffic light ?

43. There are three red and three blue candies in a bag. How many will you have to draw to be sure of drawing a red candy ?

44. Sketch the top view given the following diagram.

