Name: _____

Date: _____ Grade: _____

Intermediate Math Skills

CHAPTER 6 TEST

Congratulations on completing this chapter! ***Answer the following questions to test your understanding of the material. When you finish, hand in your test to your teacher for a final grade. Each answer is worth 2.5 points.***

Multiply the following polynomials. Show your work and write your answers on the blanks.

1. $z(2z^2)(2z^3)$ = _____

2. $3x(2x + 3)$ = _____

3. $2x(2x^2 + 3x)$ = _____

4. $5x(a + b + c)$ = _____

5. $3a(2a + 7b + 5c)$ = _____

Multiply the following polynomials using FOIL. Show your work and write your answers on the blanks.

6. $(2x + 1)(x + 1)$ =_____

7. $(3x + 2)(2x + 1)$ = _____

©Copyright 2005, Paradigm Accelerated Curriculum

8. $(x + 2)(a + b + c) =$ _____

9. $(3x + 1)(2a + 3b + 1) =$ _____

Divide the following polynomials. Show your work and write your answers on the blanks. Be sure to reduce your answers.

10. $(3x^2 + 2x) \div x =$ _____

11. $(10x^3 + 8x) \div 2x =$ _____

12. $(25x^3 + 15x^2 + 5x) \div (5x) =$ _____

13. $(8x^3 + 6x^2 + 10x - 4) \div (2) =$ _____

Simplify the following complex fractions (14-16).

14. $\dfrac{\frac{1}{5}}{3} =$ _____

©Copyright 2005, Paradigm Accelerated Curriculum

15. $\dfrac{\frac{5}{7}}{x} =$ _____

16. $\dfrac{\frac{2}{3}}{\frac{9}{x}} =$ _____

17. Add and simplify the following fraction. Show your work and write the answer on the blank.

$$\frac{2(x+2)}{5} + \frac{2(x-1)}{5} =$$ _____

18. Simplify the following algebraic expressions containing complex fractions. Show your work.

$$\frac{\frac{3(x-1)}{2(x+2)}}{\frac{2(x+1)}{7(x+2)}} =$$ _____

Choose the correct answer or fill in the blank.

19. The formula for the perimeter of a rectangle is _____.

(a) $A = l \times w$ (b) $P = l + w$ (c) $P = 2l + 2w$ (d) $P = (2l)(2w)$

20. A member of the set of numbers {…-3, -2, -1, 0, 1, 2, 3, …} is called a(n) _____.

21. The distance around most shapes is called the _____.

©Copyright 2005, Paradigm Accelerated Curriculum

Work the following problems. Show your work and write your answers on the blanks.

22. The length of a rectangle is five times the width plus one inch. If the perimeter of the rectangle is 38 inches, calculate the dimensions of the rectangle.

l = _____ w = _____

23. The sides of a triangle are consecutive odd integers. The perimeter of the triangle is 75 meters. Determine the length of the sides.

s_1 = _____, s_2 = _____, s_3 = _____

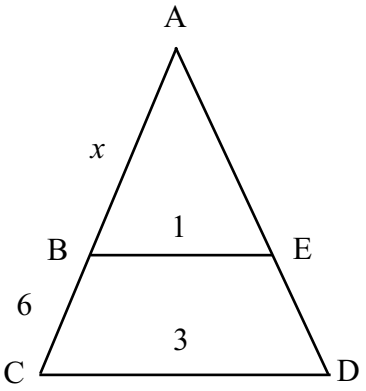
(a) 13 m, 15 m, 17 m (c) 23 m, 25 m, 27 m

(b) 15 m, 17 m, 19 m (d) 21 m, 23 m, 25 m

Work the following similarity problems containing polynomials. Shapes are not necessarily to scale. Show your work and write your answers on the blanks.

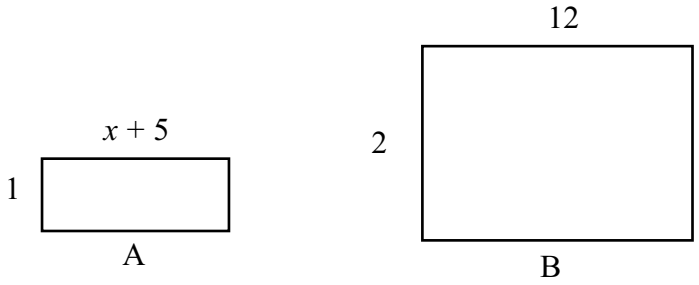
24. Look at the similar triangles below. Determine the dimensions of $\triangle ACD$.

AC = ___; CD = ___; AD = ___



25. Determine the dimensions of rectangle A below by using the properties of similarity.

A = _____



©Copyright 2005, Paradigm Accelerated Curriculum

Work the following perimeter problems that contain lengths given as polynomials. Show your work and write your answer on the blank.

26. The lengths of the sides of a hexagon (six sides) are 4 less than the lengths of the sides of a second hexagon. The perimeter of the first hexagon is 12 centimeters. Calculate the perimeter of the second hexagon. _____

(a) 2 cm (b) 6 cm (c) 12 cm (d) 24 cm (e) 36 cm (f) 48 cm

27. The circumference of a circle is 264 feet. The radius of the circle is given in the form of the polynomial, $2x + 4$. Calculate the radius of the circle. _____

Factor completely the following expressions. Show your work and write your answers on the blanks.

28. $4x + 12 =$ _____

29. $7a + 14b + 21c =$ _____

30. $4x^2a + 8x^2b + 12x^2c =$ _____

31. $15x^2y + 30xy + 30y =$ _____

©Copyright 2005, Paradigm Accelerated Curriculum

32. $6xa + 6xb + 6xc + 6xd =$ _____

Simplify completely the following mathematical expressions. Show your work and write your answers on the blanks.

33. $\frac{(x+1)}{(x+1)} =$ _____

(a) 0 (b) 1 (c) undefined (d) none of these

34. $\frac{6x+36}{3x+18} =$ _____

(a) $2(x + 6)$ (b) 3 (c) 2 (d) $2x + 2$

35. $\frac{4x+20}{4x^2+12x-8} =$ _____

Choose the best meaning for each Life Principle and write the letter of the response on the blank.

36. *"Laziness may appear attractive, but work gives satisfaction."* _____

(a) Work is not usually attractive.
(b) Things that are attractive may not always give satisfaction.
(c) Work is the greatest thing in the world.
(d) Lazy people will not work.

37. *"Being truthful when you know it will cost you is the true test of honesty."* _____

(a) Telling the truth will always cost.
(b) Being honest is good if it does not cost you anything.
(c) True honesty holds up under testing, even when costly.
(d) It is better not to be too honest.

©Copyright 2005, Paradigm Accelerated Curriculum

38. *"Life is a journey. It is best to plan where you are going."* _____
(a) Plan your life destination if you want a successful journey.
(b) There is no way to plan where your life is going.
(c) Life happens whether we plan or not.
(d) Planning may help in life but it does not make much difference in the end.

39. *"It is better to ask some of the questions than to know all of the answers."* _____
(a) It is impossible to know all the answers.
(b) Some people have all the answers.
(c) All there is in life are questions, there are no answers.
(d) We should not presume to know everything.

40. *"He who goes the wrong road must go the journey twice over."* _____
(a) It is better to know where we are going so we only have to travel the path one time.
(b) All roads must be traveled more than one time.
(c) We must at times travel the wrong road.
(d) All traveling is wrong so it is impossible to be on the right road.

©Copyright 2005, Paradigm Accelerated Curriculum

©Copyright 2005, Paradigm Accelerated Curriculum