C:\Users\Nindi\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.IE5\EJRV5VSP\MC900130271[2].wmfAssignment #4: Adding & Subtracting Polynomials /40

1. For each expression *(6 marks)*

i) identify the number of terms. *(½ mark each)*

ii) state whether the expression is a monomial, binomial, or trinomial. *(½ mark each)*

a) 6*t* i) \_\_\_\_ ii) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

b) *x*2 + 3*y* – 2 i) \_\_\_\_ ii) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

c) 9 – *r* i) \_\_\_\_ ii) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

d) *a* – 2*b* + 4*ab* i) \_\_\_\_ ii) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

e) –*cd* i) \_\_\_\_ ii) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

f) 5*s*2 – *st* i) \_\_\_\_ ii) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2. State the degree for each of the polynomials in #1. *(½ mark each; 3 marks)*

a) \_\_\_\_ b) \_\_\_\_ c) \_\_\_\_

d) \_\_\_\_ e) \_\_\_\_ f) \_\_\_\_

3. For the polynomial 3*a*2 – 4*ac* – 8 state the following: *(6 marks)*

a) Number of terms \_\_\_\_ b) Coefficient of the first term \_\_\_\_

c) Coefficient of the second term \_\_\_\_ d) Number of variables \_\_\_\_

e) Degree of polynomial \_\_\_\_ f) Constant term \_\_\_\_\_

4. Circle the like terms in each group. *(2 marks)*

a) 4*x*, 4*y*, *x*2, –*x*, *y*2 b) , 0.12, *r*2, 9

5. Simplify by collecting like terms. *(2 marks)*

a) –2*b*2 – 7*b* + 3*b*2 – 8*b* + *b* b) *w*2 – 3*w* – 8*w*2 + 7*w*2 + 10*w*

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

6. Determine the opposite of each expression. *(½ mark each; 1 mark)*

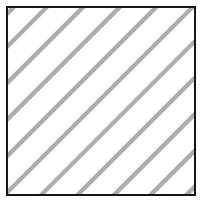
a) 6*a* b) 6*w*2 + 4*w* – 0.8

7. Add the polynomials by collecting like terms. Then, simplify. *(2 marks)*

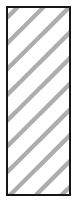
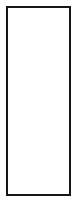
a) (7*t*2 – 6*t* + 9) + (–2*t*2 + 6*t* – 5) b) (–14*k* – 10) + (8*k* –23)

8. Subtract the polynomials by adding the opposite terms, collecting like terms, and then simplifying. *(2 marks)*

a) (*h* – 1) – (3*h*2 + 7) b) (4*k*2 – 6*k* + 1) – (–2*k*2 + 5)

*For #9 to 12, choose the best answer.*

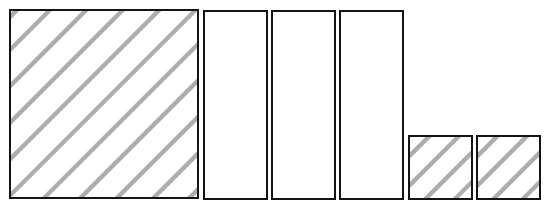
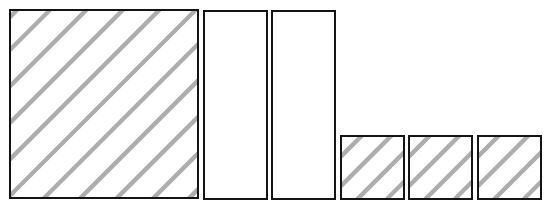
- *x*2 +*x*2

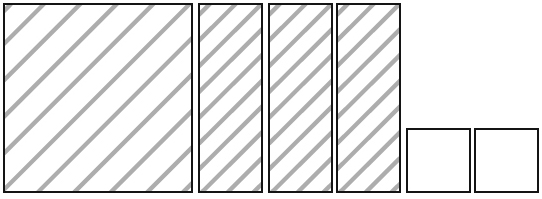
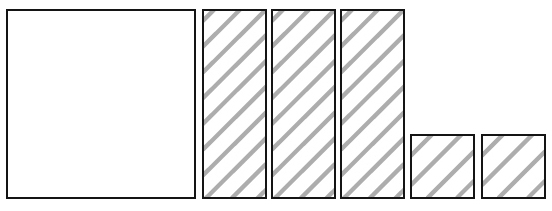


*-x* +*x*

 -1 +1

9. Which diagram represents the expression *x*2 – 3*x* + 2? *(1 mark)*

A. B.

C. D.

 10. Which expression is an example of a polynomial with a degree of 2? *(1 mark)*

A. 2*x* B 4 – 3*x* C. 3*xy* + 5*x* D *x*2*y* + 3*x* + 7

 11. Which expression can be classified as a trinomial? *(1 mark)*

A. *x*2*y* + *xy*2 + *x* + *y* B. *x* + *y* + *z* C. 5*x*3 + 7 D. 3*x*

 12. Devin was asked to subtract the expressions 5*x* – 7 and –2*x* + 6. His work is shown below.

*(1 mark)*

(5*x* – 7) – (–2*x* + 6) Step 1

= 5*x* – 7 + 2*x* + 6 Step 2

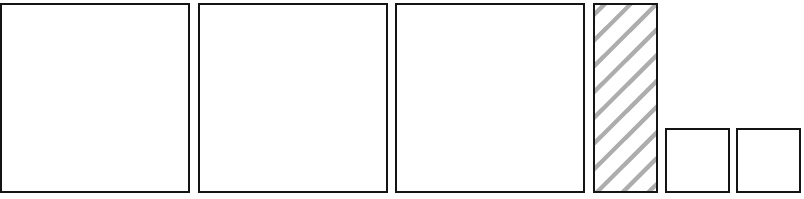
= 5*x* + 2*x* – 7 + 6 Step 3

= 7*x* – 1 Step 4

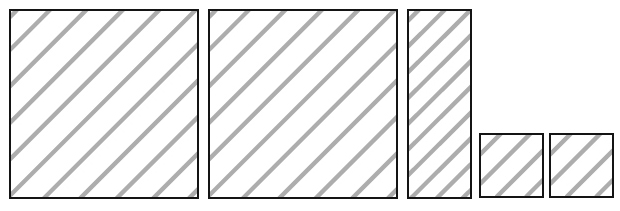
In which Step did Devin make his first mistake?

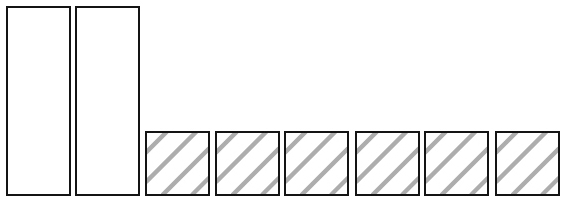
A. Step 1 B. Step 2 C. Step 3 D. Step 4

13. Write an expression that can be represented by the diagram shown. *(1 mark)*



14. Match each expression on the left with its equivalent expression or model. *(½ mark each; 2 marks)*

a) 4*x* + 11 – 5 – 6*x* A.

b) *x* – 2*x*2 + 4 B.

c) 3*x*2 – 1 + 5*x* + 3 – *x*2 – 4*x* C. –2*x* + 5

d) –(–5 + 2*x*) D. –2*x*2 + *x* + 4

15. For the expression (2*x*2 – 3*x* + 1) + (–*x*2 + 5*x* + 2), draw a model to represent sum of the two polynomials. Then, express the sum symbolically. *(2 marks)*

16. The cost of publishing the school yearbook was $440. The yearbook committee priced the yearbook at $8. *(2 marks)*

a) Write an expression that represents the profit, *p*, for the number of yearbooks sold, *n*.

b) How many yearbooks need to be sold for the yearbook committee to break even?

17. Add or subtract the polynomials by collecting like terms. Then, simplify. *(5 marks)*

a) *w*2 – 3*w* – 8*w*2 + 7*w*2 + 10*w*  b) 3a2 – 2a – 4 + 2a – 3a2 + 5

c)  d) 

**BONUS *(1 mark for TRYING* ☺*)***

