

REVIEW 6

1. Classify the following:

$$4a^5 - 6a^4 + 2a$$

☐ A Monomial

☐ B Binomial

☒ C Trinomial

2. Classify the following:

$$5a$$

☒ A Monomial

☐ B Binomial

☐ C Trinomial

3. Classify the following:

$$3x^4 + 2x$$

☐ A Monomial

☒ B Binomial

☐ C Trinomial

4. True or False?

$$(4c)^2 = 8c^2$$

$4^2 c^2$
 $16 c^2$

☐ A True

☒ B False

5. True or False?

$$2x(-xy)(-y^2) = 2x^2y^2$$

$2x^2y^3$

☐ A True

☒ B False

6. True or False?

$$(-5x^2)(7xy^3) = -35x^3y^3$$

☒ A True

☐ B False

7. True or False?

$$(-x^3y)(6xy)^2 = -6x^4y^3$$

$(-x^3y)(36x^2y^2)$

☐ A True

☒ B False

8. True or False?

$$7x^0 - (6x)^0 = 1$$

$7 - 1 = 6$

☐ A True

☒ B False

9. Which is in standard form?

☐ A $v^2 - 3 + v$

☐ B $v^2 + v^2 + v - 3$

☒ C $v^2 + v - 3$

☐ D $-3 + v + v^2$

10. Which is in standard form?

☐ A $a^2b^3 - a^4 + a^3b - ab^4$

☒ B $-a^4 + a^3b + a^2b^3 - ab^4$

☐ C $-a^4 - ab^4 + a^3b + a^2b^3$

☐ D $-ab^4 + a^2b^3 + a^3b - a^4$

11. What is the degree of the polynomial?

$$x^4 + x^2 - 4x + 6$$

☐ A 1

☐ B 2

☐ C 3

☒ D 4

12. What is the degree of the polynomial?

$$-a^4b^2 + a^3b^3 + a^2b^4 - ab^5$$

(Arrows point from the exponents 4, 3, 2, and 1 to the circles around the letters a, b, b, and a respectively in each term.)

☐ A 4

☒ B 6

☐ C 10

☐ D 24

13. Simplify:

$$6x + 3y - 5y - 6 + 2x + 7 - 3y$$

☐ A $4xy$

☒ B $8x - 5y + 1$

☐ C $8x + 11y + 1$

☐ D $8x - 2y + 1$

14. Simplify:

$$a^3(a^3)(a^3)$$

☐ A $3a^9$

☐ B $3a^{27}$

☒ C a^9

☐ D a^{27}

15. Simplify:

$$(2x - 7)^2$$

(Arrows point from the 2 to the circles around the 2 and 7 in the base.)

☐ A $4x^2 - 49$

☐ B $4x^2 + 49$

☐ C $4x^2 - 14x + 49$

☒ D $4x^2 - 28x + 49$

16. Simplify:

$$5g(g^2 - 2g + 1)$$

☒ A $5g^3 - 10g^2 + 5g$

☐ B $5g^2 - 10g + 5g$

☐ C $5g^2 - 10g + 5$

☐ D $-10g^4$

17. Simplify: $\frac{25a^2b^3}{5a}$

☐ A $20a^2b^3$

☒ B $5ab^3$

☐ C $20ab^3$

☐ D $5a^2b^3$

18. Simplify:

$$(4x + 3)(2x - 1)$$

☐ A $6x + 2$

☒ B $8x^2 + 2x - 3$

☐ C $8x^2 - 3$

☐ D $8x - 3$

19. Simplify:

$$(m^3n^7)^4$$

☐ A $m^7 + n^{11}$

☐ B $4m^{12}n^{28}$

☒ C $m^{12}n^{28}$

☐ D m^7n^{11}

20. How would you go about simplifying the following expression:

$$-2x^2 + x + 3 - \underbrace{5(x^2 + 2x - 1)}_{\text{distribute}}$$

21. How would you go about simplifying the following expression:

$$(6c^2 + \overset{\uparrow}{5c} - 3) - (3c^2 + \overset{\uparrow}{8c} - 1)$$

Keep signs change signs

22. How would you go about simplifying the following expression:

$$\begin{aligned} &5a + [3b - (-2a + 4b)] \\ &\quad \text{change signs} \\ &5a + [3b + 2a - 4b] \\ &\quad \text{add} \\ &5a + [2a - b] \\ &\quad \text{Keep signs} \\ &5a + 2a - b \\ &7a - b \end{aligned}$$

23. How would you go about simplifying the following expression:

$$\begin{aligned} &\underbrace{(3m - 2)(2m + 3)}_{\text{FOIL}} - \underbrace{(m - 5)(m + 5)}_{\text{FOIL}} \\ &(\text{trinomial}) - (\text{binomial}) \\ &\quad \uparrow \quad \quad \uparrow \\ &\text{Keep signs} \quad \text{change signs} \end{aligned}$$

24. How would you go about simplifying the following expression:

$$\frac{12a^3x - 8a^2x + 4ax}{4ax}$$

Separate and then divide