Name:

1. Which expression is equivalent to $5x^3 + 2y^3 + 3y^3$?

    a) $5x^3y^3$ b) $10x^3y^3$ c) $5x^3 + 5y^3$ d) $5x^3 + 5y^6$ e) $10x^3y^6$

2. Simplify $3a + 2b - c - 2a + 5b + 3c$ by combining like terms.

    a) $10abc$ b) $a^2 + 7b^2 + 2c^2$ c) $5a + 7b + 4c$

    d) $a + 7b + 2c$ e) $5a^2 + 7b^2 + 4c^2$

3. Simplify the expression $x^4 + 2x^2y - 3xy^2 + 5x^2y^2 - 4x^3 + 7xy^2 - x^2y$.

    a) $-3x + x^4y^2 + 4x^2y^4 + 5x^2y^2$ b) $x^4 - 4x^3 + x^2y + 4xy^2 + 5x^2y^2$

    c) $7x^{15}y^8$ d) $7x^3y^2$

    e) $-3x^3 + x^2y + 4xy^2 + 5x^2y^2$

4. Simplify: $(8m - 3n + 7) + (4m - 5p - 3) + (-m - n + 6p + 4)$

    a) $11m - 4n - p$ b) $13m + 4n + p + 8$ c) $11m + 4n + 2p$

    d) $13m - 3n + 2p + 8$ e) $11m - 4n + p + 8$

5.   Simplify the expression $(2x - 8) - (-4x + 3)$.

     a) $-2x - 5$ b) $6x - 5$ c) $2x + 5$ d) $-2x + 5$ e) $6x - 11$

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6.   Find the difference between $(5x - 3y - z)$ and $(-2x + y - 3z)$.

     a) $-7x + 4y - 2z$ b) $3x + 2y + 2z$ c) $7x - 2y - 4z$

     d) $7x - 4y + 2z$ e) $3x^2 + 2y^2 + 2z^2$

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7.   Simplify: $(8m - 3n + 7) - (4m - 5p - 3) - (-m - n + 6p + 4)$

     a) $3m - 4n - p$ b) $3m - 4n - 11p$ c) $5m - 2n - 11p + 6$

     d) $5m - 2n - p + 6$ e) $5m + 2n - 11p + 6$

---

8.   Simplify: $8x - [2 + (4x + 3)]$

     a) $-x + 5$ b) $-12x + 6$ c) $4x - 5$ d) $8x - 15$ e) $12x + 5$

---

9.   Which expression is equivalent to $5x - 6 + (2x - 3) - [4x + (7 - 2x)]$?

     a) $5x - 16$ b) $7x - 2$ c) $x^2 - 10$ d) $2x^2 - 13$ e) $7x^2 + 16$

10. Which expression is equivalent to $3(x + 5)$?

   a) $8x$ b) $15x$ c) $x + 8$ d) $3x + 5$ e) $3x + 15$

---

11. Which expression is equivalent to $-7t^3(2t^2 - 3)$?

   a) $-14t^5 + 21t^3$ b) $-14t^5 + 21t^4$ c) $35t^5$

   d) $9t^5 + 10t^3$ e) $14t^5 + 21t^3$

---

12. Which expression is equivalent to $2xy(3x^2y + 8xy^2)$?

   a) $6x^2y + 16xy^2$ b) $5x^2y + 10xy^2$ c) $5x^3y^2 + 10x^2y^3$

   d) $6x^3y^2 + 16x^2y^3$ e) $22x^3y^3$

---

13. Simplify: $\frac{2}{5}c^3(5c^3 - 10c^2 - 20c + 5)$

   a) $c^6 - 4c^5 - 6c^4 + 2c^3$ b) $2c^6 - 4c^5 - 8c^4 + 2c^3$ c) $4c^6 - 4c^5 - 8c^4 + 4c^3$

   d) $2c^6 - 2c^5 - 8c^4 + 2c^3$ e) $6c^6 - 4c^5 - 8c^4 + 2c^3$

14. Simplify: $(n+5)(n+2)$

    a) $n^2 + 10$ b) $2n + 7$ c) $2n + 10$

    d) $n^2 + 7n + 10$ e) $n^2 + 7n + 7$

---

15. Which expression is equivalent to $(2z^2 + 1)(5 + z^2)$?

    a) $3z^2 + 6$ b) $2z^4 + 5$ c) $2z^4 + 7z^2 + 5$

    d) $2z^4 + 11z^2 + 5$ e) $2z^2 + 11z + 5$

---

16. Which expression is equivalent to $(3w^2 - 4)(1 - 2w)$?

    a) $-6w^3 + 3w^2 + 8w - 4$ b) $-w^3 + 3w^2 - 6w - 4$

    c) $3w^2 + 8w$ d) $3w^2 - 2w - 4$

    e) $6w^3 + 3w^2 + 8w + 4$

---

17. Simplify the expression $(3x + 2)(x^2 - 5x - 6)$.

    a) $x^2 - 2x - 4$ b) $x^2 - 15x - 12$

    c) $3x^3 - 13x^2 - 28x - 12$ d) $3x^3 - 15x^2 - 18x - 12$

    e) $x^3 - 10x^2 - 10x - 12$

18. Simplify the fraction $\dfrac{3x^3 - 6x^2}{3x}$.

    a) -1 b) $-5x^2$ c) $x^2 - 2x$ d) $3x^3 - 2x$ e) $x^3 - 2x^2$

19. Reduce the fraction $\dfrac{12x - 8y - 32}{4}$.

    a) $-9xy$ b) $3x - 8y - 32$ c) $12x - 2y - 32$

    d) $12x - 8y - 8$ e) $3x - 2y - 8$

20. Simplify: $\dfrac{30x - 45}{5}$

    a) $6x - 45$ b) $30x - 9$ c) $6x - 9$ d) $-3x$ e) $25x - 40$

21. Divide $12x^2y + 35x^3y^2$ by $15x^2$.

    a) $\frac{4}{5}y + \frac{7}{3}x^3y^2$ b) $\frac{4}{5}y + \frac{7}{3}xy^2$ c) $\frac{4}{5}y + \frac{7}{3}x^3$

    d) $\frac{4}{5}x^2y + \frac{7}{3}xy$ e) $\frac{4}{5}x^3y^3$

22. Simplify: $(8a - 3b)^2$

   a) $64a^2 + 9b^2$

   b) $8a^2 + 3b^2$

   c) $64a^2 - 24ab + 9b^2$

   d) $64a^2 - 48ab + 9b^2$

   e) $64a^2 - 48ab - 9b^2$

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23. Simplify the expression $\left(4x - \frac{1}{2}\right)^2$.

   a) $4x^2 + \frac{1}{2}$

   b) $4x^2 - 4x + \frac{1}{2}$

   c) $8x^2 - 4x + \frac{1}{4}$

   d) $16x^2 - 4x + \frac{1}{4}$

   e) $16x^2 + \frac{1}{4}$

---

24. Simplify: $(w + 5)(w - 5)$

   a) $2w$

   b) $2w - 25$

   c) $w^2 - 25$

   d) $w^2 - 10w - 25$

   e) $w^2 - 10$

---

25. Simplify: $\left(\frac{1}{2}p^4 - \frac{2}{3}q\right)\left(\frac{1}{2}p^4 + \frac{2}{3}q\right)$

   a) $\frac{1}{2}p^8 - \frac{2}{3}q^2$

   b) $\frac{1}{4}p^8 - \frac{4}{9}q^2$

   c) $\frac{1}{4}p^{16} - \frac{4}{9}q^4$

   d) $\frac{1}{2}p^8 + \frac{1}{3}p^4q - \frac{2}{3}q^2$

   e) $\frac{1}{4}p^8 + \frac{1}{3}p^4q - \frac{4}{9}q^2$

26. Factor $6a - 9$ completely.

    a) $2(3a - 9)$ b) $3(2a - 3)$ c) $6(a - 3)$ d) $6(a - 9)$ e) $1(6a - 9)$

27. Find the greatest monomial that is a factor of $3x^2y + 6x$.

    a) 3 b) x c) $3x$ d) $3y$ e) $3xy$

28. Find the greatest monomial factor of the expression $m^3n^4 + 2m^2n^2 - 4mn^3$.

    a) mn^2 b) m^2n c) mn^2 d) m^2n^2 e) m^3n^3

29. Factor the expression $4f - 10f^3$ completely.

    a) $f(4 - 10f^2)$ b) $2(2f - 5f^2)$ c) $2f(2 - 5f^2)$

    d) $4f(1 - 2f^2)$ e) $4f(-6f^2)$

30. Which of the following is the factorization of $k^2 + 11k + 28$?

    a) $(k + 4)(k + 7)$ b) $(k + 2)(k + 14)$ c) $(k - 4)(k - 7)$

    d) $(k - 2)(k + 14)$ e) $(k + 2)(k - 14)$

31. Which of the following are factors of the polynomial $p^2 + 15p + 44$?

       I. $p + 4$

      II. $p + 22$

     III. $p + 2$

     IV. $p + 11$

    a) I and II only   b) I and III only   c) I and IV only

    d) II and III only   e) III and IV only

---

32. Which of the following is the factorization of $b^2 + 13b + 36$?

    a) $(b + 2)(b + 18)$ b) $(b + 3)(b + 12)$ c) $(b - 2)(b - 13)$

    d) $(b + 4)(b + 9)$ e) $(b + 6)(b + 6)$

---

33. Factor completely: $19c + c^2 + 60$

    a) $(c + 3)(c + 20)$ b) $(c + 4)(c + 15)$ c) $(c + 6)(c + 10)$

    d) $(c + 5)(c + 12)$ e) prime polynomial

34. Factor completely: $4x^2 + 24x + 36$

  a) $(4x + 12)(x + 3)$ b) $(2x + 6)(2x + 6)$ c) $4(x^2 + 6x + 9)$

  d) $2(2x + 3)(x + 6)$ e) $4(x + 3)^2$

35. Factor $56 + 18t + t^2$ completely.

  a) $(7 + t)(8 + t)$ b) $(3 + t)(18 + t)$ c) $(4 + t)(14 + t)$

  d) $(3 + t)(18 - t)$ e) prime polynomial

36. Factor $x^3 + x^2 - 12x$ completely.

  a) $x(x + 4)(x - 3)$ b) $x(x^2 + 4x)(x - 3)$ c) $x(x + 6)(x - 2)$

  d) $x(x^2 + x + 12)$ e) $x(x + 2)(x + 3)$

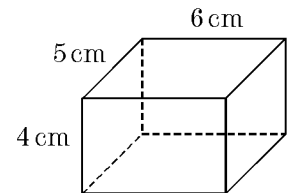37. Factor the polynomial $2x^2y - 4xy - 30y$ completely.

  a) $2(x^2y - 2xy - 15y)$ b) $2y(x^2 - 2x - 15)$ c) $2(xy - 5y)(x + 3)$

  d) $2y(x - 5)(x + 3)$ e) $2y(x + 5)(x - 3)$

38. Factor the expression $2x^2 - 32$ completely.

     a) $(2x + 8)(x - 4)$ b) $(x + 4)(2x - 8)$ c) $2(x + 6)(x - 6)$
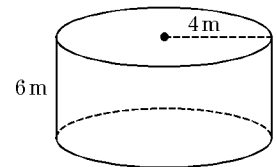
     d) $2(x + 4)(x - 4)$ e) $2(x + 8)(x - 8)$

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39. Find the number of square centimeters in the total surface area of the rectangular prism shown.
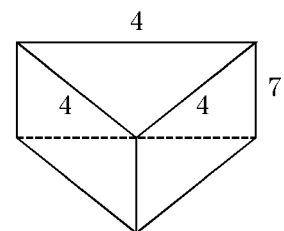
     a) 64   b) 74   c) 108   d) 120   e) 148

---

40. Find the total surface area of the given right circular cylinder.

     a) $60\pi\,\mathrm{m}^2$ b) $71\pi\,\mathrm{m}^2$ c) $80\pi\,\mathrm{m}^2$

     d) $100\pi\,\mathrm{m}^2$ e) $120\pi\,\mathrm{m}^2$

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41. Find the lateral area of the right prism.

     a) $12\,\mathrm{units}^2$ b) $56\,\mathrm{units}^2$ c) $84\,\mathrm{units}^2$

     d) $96\,\mathrm{units}^2$ e) $112\,\mathrm{units}^2$

Math 9   Review #2   Name: 6/12/2013

1.
Answer: c
CodePath: EAS.MMA.F.D.4

2.
Answer: d
CodePath: EAS.MMA.F.D.5

3.
Answer: b
CodePath: EAS.MMA.F.D.9

4.
Answer: e
CodePath: EAS.MMA.F.D.21

5.
Answer: e
CodePath: EAS.MMA.F.D.25

6.
Answer: d
CodePath: EAS.MMA.F.D.33

7.
Answer: d
CodePath: EAS.MMA.F.D.37

8.
Answer: c
CodePath: EAS.MMA.F.D.41

9.
Answer: a
CodePath: EAS.MMA.F.D.45

10.
Answer: e
CodePath: EAS.MMA.F.F.1

11.
Answer: a
CodePath: EAS.MMA.F.F.9

12.
Answer: d
CodePath: EAS.MMA.F.F.13

13.
Answer: b
CodePath: EAS.MMA.F.F.17

14.
Answer: d
CodePath: EAS.MMA.F.F.21

15.
Answer: d
CodePath: EAS.MMA.F.F.25

16.
Answer: a
CodePath: EAS.MMA.F.F.29

17.
Answer: c
CodePath: EAS.MMA.F.F.33

18.
Answer: c
CodePath: EAS.MMA.F.F.45

19.
Answer: e
CodePath: EAS.MMA.F.F.43

20.
Answer: c
CodePath: EAS.MMA.F.F.41

21.
Answer: b
CodePath: EAS.MMA.F.F.47

22.
Answer: d
CodePath: EAS.MMA.F.G.5

23.
Answer: d
CodePath: EAS.MMA.F.G.9

24.
Answer: c
CodePath: EAS.MMA.F.G.13

25.
Answer: b
CodePath: EAS.MMA.F.G.17

26.
Answer: b
CodePath: EAS.MMA.G.A.27

27.
Answer: c
CodePath: EAS.MMA.G.A.31

28.
Answer: a
CodePath: EAS.MMA.G.A.38

29.
Answer: c
CodePath: EAS.MMA.G.A.29

30.
Answer: a
CodePath: EAS.MMA.G.B.1

31.
Answer: c
CodePath: EAS.MMA.G.B.5

32.
Answer: d
CodePath: EAS.MMA.G.B.2

33.
Answer: b
CodePath: EAS.MMA.G.B.3

34.
Answer: e
CodePath: EAS.CM2.F.B.59

35.
Answer: c
CodePath: EAS.MMA.G.B.4

36.
Answer: a
CodePath: EAS.MMA.G.D.1

37.
Answer: d
CodePath: EAS.MMA.G.D.4

38.
Answer: d
CodePath: EAS.MMA.G.D.11

39.
Answer: e
CodePath: EAS.MMA.O.B.1

40.
Answer: c
CodePath: EAS.MMA.O.B.3

41.
Answer: c
CodePath: EAS.MMA.O.B.11