

# SOLUTIONS Assignment #2

MATH 171

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## Section 1.6 (odd number solutions, see textbook)

6- 15

26-  $24\sqrt{3}$

8- -6

28- 90

10- 0.5

30- 3

12- -30

32-  $32/12 = 8/3$

14- 2

34- 13

16- -2

36-  $4\sqrt{3}$

18- 19

20- 53

22- -2

24-  $5\sqrt{2}$

## SECTION 1.7

6- -t

8- -c

10-  $4x - 3y + z$

12-  $3xy^2 - 3x^2y^2$

14-  $8 - 4n + p$

16-  $3a - b$

18-  $-4\sqrt{A} + h$

20-  $6x + 3y$

22-  $2(x-2y) + (5x-y)$

=  $2x - 4y + 5x - y$

=  $7x - 5y$

24-  $3a - 3b - 2a + 4b$

=  $a + b$

26-  $-5t - a^2 - 6a^2 + 4st$   
=  $-5t - 7a^2 + 4st$

28-  $-[A - B - B + A]$   
=  $-2A + 2B$

30-  $3[1 - a] = 3 - 3a$

32-  $-2[-3x + 6y + 4y]$   
=  $-2[-3x + 10y]$   
=  $6x - 20y$

34-  $9v - [6 - v + 4 + 4v]$   
=  $9v - 10 - 3v$   
=  $6v - 10$

$$\begin{aligned}
 36- \quad & 7y - \{y - [zy - x + y]\} \\
 & = 7y - [-2y + x] \\
 & = 9y - x
 \end{aligned}$$

$$\begin{aligned}
 38- \quad & -4 + x - [-x - 9] \\
 & = 2x + 5
 \end{aligned}$$

$$\begin{aligned}
 40- \quad & -\{-[-x + 2a - b] - a\} \\
 & = -\{x - 2a + b - a\} \\
 & = 3a - x - b
 \end{aligned}$$

$$\begin{aligned}
 42- \quad & -2x + 2(2x - 6) \\
 & = -2x + 4x - 12 \\
 & = 2x - 12
 \end{aligned}$$

$$\begin{aligned}
 44- \quad & a^2 - 2(x - 5 - (7 - 2a^2 + 4x - 3x)) \\
 & = a^2 - 2(x - 5 - 7 + 2a^2 - x) \\
 & = a^2 - 2(-12 + 2a^2) \\
 & = a^2 + 24 - 4a^2 \\
 & = -3a^2 + 24
 \end{aligned}$$

$$\begin{aligned}
 46- \quad & 3 \{2.1e - 1.3[f - 2(e - 5f)]\} \\
 & = 3 \{2.1e - 1.3[f - 2e + 10f]\} \\
 & = 3 \{2.1e - 1.3[11f - 2e]\} \\
 & = 3 \{2.1e - 14.3f + 2.6e\} \\
 & = 3 \{4.7e - 14.3f\} \\
 & = 14.1e - 42.9f
 \end{aligned}$$

# Section 1.8

$$6- 2x^3y^4$$

$$8- -32c^2s^4$$

$$10- 54p^3q^7$$

$$12- 6m^6n^3$$

$$14- 2xp - 2xq$$

$$16- -6b^3 + 3b^2$$

$$18- 2a^3bc^2 - 3a^4b^2c$$

$$20- b^2x^4 - 2b^2x^3 + b^2x^2$$

$$22- 36c^3g + 8c^3 - 4c^2g^2$$

$$24- 18s^2t^3 - 24st^4$$

$$26- a^2 + 8a + 7$$

$$28- 8t_1^2 - 10t_1t_2 - 3t_2^2$$

$$30- 12w^4 - 13w^2 + 3$$

$$32- 5p^2 + 38pq - 16q^2$$

$$34- 3y^3 - 27y^2 + 4y - 18$$

$$36- -2a^2b^4 - 7ab^2t + 30t^2$$

$$38- 2F^3 - 2F^2 - 10F + 3F^2 - 3F - 15$$

$$= 2F^3 + F^2 - 13F - 15$$

$$40- 5a^3 + 5a^2c - 5ac^2 - 3a^2c - 3ac^2 + 3c^3$$

$$= 5a^3 + 2a^2c - 15ac^2 + 3c^3$$

$$42- -5(y^2 + 3y - 18)$$
$$= -5y^2 - 15y + 90$$

$$44- 2n(25 + 25n - 6n^2)$$
$$= 50n + 50n^2 - 12n^3$$

$$46- ax(7x - x^3 + 28 - 4x^2)$$
$$= -ax^4 - 4ax^3 + 7ax^2 + 28ax$$

$$48- (x-3)(x-3)$$
$$= x^2 - 6x + 9$$

$$50- (2m+1)(2m+1)$$
$$= 4m^2 + 4m + 1$$

Section 1.9

6-  $-18b^6c$

8-  $\frac{3n^3}{m}$

10-  $4T^2$

12-  $\frac{12}{9b^3}$

$= \frac{4}{3b^3}$

14-  $\frac{2m^2n}{2m} - \frac{6mn}{2m}$

$= mn - 3n$

16-  $\frac{-5a^3n}{5an} - \frac{10an^2}{5an}$

$= -a - 2n$

18-  $ax_2 + x^2 - 1$

20-  $\frac{2ab}{3} - \frac{1}{3b}$

22-  $1 + \frac{4}{xy} - 6y^2$

24-  $3b^2 - \frac{1}{a}$

$$\begin{array}{r}
 26- \quad \quad \quad \frac{2x+1}{x+3} \overline{) 2x^2+7x+3} \\
 \underline{-(2x^2+6x)} \phantom{+3} \\
 x+3 \\
 \underline{-(x+3)} \\
 0
 \end{array}$$

ANS.  $2x+1$ 

$$\begin{array}{r}
 28- \quad \quad \quad \frac{2x-7}{x+1} \overline{) 2x^2-5x-7} \\
 \underline{-(2x^2+2x)} \phantom{-7} \\
 -7x-7 \\
 \underline{-(-7x-7)} \\
 0
 \end{array}$$

ANS.  $2x-7$ 

$$\begin{array}{r}
 30- \quad \quad \quad \frac{3x+2}{2x+1} \overline{) 6x^2+7x+6} \\
 \underline{-(6x^2+3x)} \phantom{+6} \\
 4x+6 \\
 \underline{-(4x+2)} \\
 4
 \end{array}$$

ANS.  $3x+2 + \frac{4}{2x+1}$ 

$$\begin{array}{r}
 32- \quad \quad \quad \frac{2x-4}{3x-4} \overline{) 6x^2-20x+16} \\
 \underline{-(6x^2-8x)} \phantom{+16} \\
 -12x+16 \\
 \underline{-(-12x+16)} \\
 0
 \end{array}$$

ANS.  $2x-4$

34-

$$\begin{array}{r}
 \underline{X^2-1} \overline{) 2X^2+4X+2} \\
 \underline{2X^4+4X^3+2} \\
 -(2X^4-2X^2) \\
 \hline
 4X^3+2X^2+2 \\
 -(4X^3-4X) \\
 \hline
 2X^2+4X+2 \\
 -(2X^2-2) \\
 \hline
 4X+4
 \end{array}$$

ANS.  $2X^2+4X+2 + \frac{4X+4}{X^2-1}$

36-

$$\begin{array}{r}
 \underline{X^2-X+2} \overline{) 2X-1} \\
 \underline{2X^3-3X^2+8X-2} \\
 -(2X^3-2X^2+4) \\
 \hline
 -X^2+8X-6 \\
 -(-X^2+X-2) \\
 \hline
 7X-4
 \end{array}$$

ANS  $2X-1 + \frac{7X-4}{X^2-X+2}$

38-

$$\begin{array}{r}
 \underline{D-1} \overline{) D^2+D+1} \\
 \underline{D^3-1} \\
 -(D^3-D^2) \\
 \hline
 D^2-1 \\
 -(D^2-D) \\
 \hline
 D-1 \\
 -(D-1) \\
 \hline
 0
 \end{array}$$

ANS  $D^2+D+1$

40-

$$\begin{array}{r}
 \underline{r-3R} \overline{) 3r+4R} \\
 \underline{3r^2-5rR+2R^2} \\
 -(3r^2-9rR) \\
 \hline
 4rR+2R^2 \\
 -(4rR-12R^2) \\
 \hline
 14R^2
 \end{array}$$

ANS.  $3r+4R + \frac{14R^2}{r-3R}$

