

Chapter 1 – Prerequisite Review Worksheet - ANSWERS

Section 1.1

1. $10t - 44w$
2. $23y$
3. $-\frac{9}{5}p + \frac{5}{2}$
4. $3k + 11$
5. $a^2 + 10a + 25$
6. $a^2 - 6a + 9$
7. $16q^2 + 24q + 9$
8. $(x+4)(3x+1)$
9. $(p-2)(2p+1)$
10. $(2n+3)(3n-1)$
11. $(w-2)(4w-1)$
12. 36
13. $12a^2b$
14. $(w+3)(w-8)(w+1)$
15. $40(2r+1)$
16. $(x-3)(x+7)$

Section 1.2

1. $x+5$
2. $x-5,682,080$
3. $10x$
4. $2x$
5. $3x-20$
6. $x-117$
7. $\frac{132}{4} = \frac{x}{9}$
8. $\frac{12}{10} = \frac{x}{60}$

Section 1.3

1. $3\sqrt{7}$
2. $2\sqrt{5}$
3. $5\sqrt{2}$
4. $15\sqrt{2}$
5. $4\sqrt{6}$

6. $4\sqrt{5}$
7. $-30\sqrt{3}$
8. $2\sqrt{3}$
9. $7\sqrt{6}$
10. $y^2 - 6$
11. $3 - x^2$
12. $-\frac{\sqrt{7}}{7}$
13. $\frac{3\sqrt{2}}{2}$
14. $\frac{\sqrt{3}}{6}$
15. $\frac{4\sqrt{2}-12}{-7}$
16. $\frac{24+6\sqrt{3}}{13}$

Section 1.4

1. $x^2 - 16x + 64$
2. $y^2 + 6y + 9$
3. $(x-8)^2$
4. $(y+3)^2$
5. $2(a-5)^2$
6. $3(t+3)^2$
7. $(5m-3n)^2$
8. $(3h-2)(3h+1)$
9. $\frac{10-\sqrt{3}}{2}$ or $5 - \frac{\sqrt{3}}{2}$
10. $7 - 5\sqrt{2}$
11. $\frac{9+4\sqrt{3}}{3}$ or $3 + \frac{4}{3}\sqrt{3}$

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Section 1.5

1. 33 cm^2
2. 119 ft^2
3. 60 m^2
4. 180 in^3
5. 156 in^3
6. $\frac{391}{16}\text{ cm}^3$ or 24.4375 cm^3
7. 5 m
8. 15 inches
9. 12 yd
10. 6 km^2
11. 10.12 km^2
12. 40 mi^2

Section 1.6

1. $(2a-b)(4a+3c)$
2. $(y-z)(x+7)$
3. $(a+6)(5a-2)$
4. $(2p-1)(p-1)$
5. $k=-2$
6. $h=4$
7. *no restricted values*
8. $(w-1)(w-2)(w+2)$
9. $24(3y+1)$
10. 12
11. 27
12. $\frac{1}{729}$
13. -2

14. $\sqrt[3]{q^2}$

15. $\sqrt[5]{t^3}$

16. $6\sqrt[4]{y^3}$

17. $x^{\frac{1}{3}}$

18. $y^{\frac{2}{3}}$

Section 1.7

1. $\{x|x \geq -2\}; [-2, \infty)$
2. $\{x|x < -3\}; (-\infty, -3)$
3. $\{x|-3 < x \leq 1\}; (-3, 1]$
4. $t=10$
5. $k=\frac{1}{2}$
6. $x=-4$
7. $w=\frac{1}{2}$
8. $c=0$
9. $x=5$
10. $y=-3$
11. $z=\frac{3}{4}$
12. $x=\frac{23}{12}$
13. $y=-\frac{4}{3}$
14. $x=10$