Today's Plan:

Learning Target (standard): I will review for the semester exam.

Students will: Complete practice problems over previous concepts at the boards and study for my exam.

Teacher will: Provide practice problems over previous concepts, check homework problems for accuarcy and provide students feedback, describe and provide examples of exam problems.

Assessment: Board work

Differentiation: Students will work at the board, actively engage in practice review concepts with the aid of other students and the teacher.

p.243 #28-80 even

28) $8-i$

30) $-8+4i$

32) $6-6i$

34) $19-7\sqrt{2}i$

36) $6\sqrt{2}-3\sqrt{2}i$

38) $5-i$

40) 0

42) $15+4i$

44) 63

46) -4

48) $-3\sqrt{2}$

50) $-4+12i$

52) $-2+4i$

54) $17-i$

56) $8+27i$

58) 1

60) 1

62) 25

64) 10

66) $34-12\sqrt{2}i$

68) $-3i$

70) $\frac{3}{4}+\frac{1}{2}i$

72) $\frac{10}{13}-\frac{2}{13}i$

74) $\frac{4}{5}+\frac{2}{5}i$

76) $-i$

78) $-\frac{\sqrt{5}}{5}+\frac{2\sqrt{5}}{5}i$

80) $\frac{3}{10}-\frac{11}{10}i$

Simplify.

78) $\dfrac{\sqrt{-10}}{\sqrt{8}-\sqrt{-2}} = \dfrac{\sqrt{10}\,i}{2\sqrt{2}-\sqrt{2}i} \cdot \dfrac{2\sqrt{2}+\sqrt{2}i}{2\sqrt{2}+\sqrt{2}i}$

$= \dfrac{\sqrt{10}\,i(2\sqrt{2}+\sqrt{2}i)}{(2\sqrt{2}-\sqrt{2}i)(2\sqrt{2}+\sqrt{2}i)}$

$= \dfrac{2\sqrt{20}\,i+\sqrt{20}\,i^2}{4\sqrt{2\cdot2}-\sqrt{2\cdot2}\,i^2}$

$= \dfrac{4\sqrt{5}\,i+2\sqrt{5}(-1)}{8-2i^2}$ ($i^2=-1$)

$= \dfrac{4\sqrt{5}\,i-2\sqrt{5}}{8+2}$

$= \dfrac{4\sqrt{5}i-2\sqrt{5}}{10}$

$= \dfrac{4\sqrt{5}}{10}i-\dfrac{2\sqrt{5}}{10}$

$= \dfrac{\sqrt{5}}{5}-\dfrac{2\sqrt{5}}{5}i$

Simplify:

$-3i(4-5i)$ ($i^2=-1$)

$= -12i+15i^2$

$= -12i-15$

$= -15-12i$

$a+bi$

Simplify:

$$(1-i)\left(\frac{1}{2}+\frac{1}{2}i\right)$$

$= \frac{1}{2}+\frac{1}{2}i-\frac{1}{2}i-\frac{1}{2}i^2$ $\quad i^2=-1$

$= \frac{1}{2}-\frac{1}{2}(-1)$

$= \frac{1}{2}+\frac{1}{2}$

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Simplify:

$$\frac{6}{5+2i}\cdot\frac{5-2i}{5-2i}=\frac{6(5-2i)}{(5+2i)(5-2i)}$$

$= \frac{30-12i}{25-4i^2}$ $\quad i^2=-1$

$= \frac{30-12i}{25+4}$

$= \frac{30-12i}{29}$

$= \frac{30}{29}-\frac{12}{29}i$

Semester Grade: www.math4tigers.org

$$.40Q_1 + .40Q_2 + .20exam = semester$$

$.40(90\%) + .4(80\%) + .2x = 89.5$ A

$= 79.5$ B

$= 69.5$ C

$= 59.5$ D

Exam Review ~ Semester One

1) $x = 6$

2) $n = -\frac{7}{2}$

3) $p = -4, 7$

4) $a = \frac{2}{7}, \frac{18}{7}$

5) $\{a \mid a > 6\}; (-\infty, 6)$

6) $\{m \mid -6 < m \le 4\}; (-6, 4]$

7) $\{x \mid x \le -2, x > 6\}; (-\infty, -2] \cup (6, \infty)$

8) $\{v \mid 2 \le v \le 8\}; [2, 8]$

9) $\{x \mid x < -4, x > 6\}; (-\infty, -4) \cup (6, \infty)$

10) $\{n \mid n \le -55, n \ge 45\}; (-\infty, -55] \cup [45, \infty)$

11) $-4v^4 + 4v^3 + 2v^2$

12) $-9x - 4$

13) $8n^3 + 39n^2 + 59n - 8$

14) $-24u^2 + 26uv + 28v^2$

15) $x^2 + 6x - 2 + \frac{8}{x-5}$ (synthetic)

Exam Review ~ Semester One

16) $4k^2+4k+3+\frac{7}{k-3}(synthetic)$

17) $\frac{2n^3p^6}{m^6}$

18) $\frac{q^5}{4p^4r^6}$

19) $\frac{1}{8p^{14}q^{11}r^7}$

20) $\frac{n^6}{8m^{12}p^{12}}$

21) $(7x^2+3)(x-3)$

22) $(x^2+6)(6x-1)$

23) $(7n-5)(n+10)$

24) $(7k+3)(k-8)$

25) $2v(3v-2)$

26) $5n(5n-6)(n-7)$

27) $(2x+5)(2x-5)$

28) $(5a-4)^2$

29) $(3u-5)(9u^2+15u+25)$

Exam Review ~ Semester One

30) $4(u+4)(u^2-4u+16)$

31) $x=-\frac{2}{3},1$

32) $b=-\frac{5}{2},8$

33) 1

34) $\frac{x+3}{x+2}$

35) $\frac{3a^2(a-7)}{7}$

36) $\frac{(p-10)(p+2)}{p+10}$

37) $\frac{-2(p^2+p-1)}{(p+2)(p+1)}$

38) $\frac{3m^2+11m-10}{(m+2)(m-2)}$

39) $b=2$

40) $a=-5$

41) $-30x^2y^2z\sqrt[3]{6x^2}$

42) $16ac\sqrt[6]{2b^4c^2}$

43) $-18\sqrt{2}$

44) $2\sqrt{5}-2\sqrt{6}$

45) $\frac{4\sqrt{3}}{3}$

46) $\frac{\sqrt[3]{100}}{5}$

47) $-20\sqrt{5}+12\sqrt{15}$

48) $7+2\sqrt{10}$

Exam Review ~ Semester One

49) $\frac{-25-5\sqrt{3}}{22}$

50) $\frac{25-5\sqrt{5}+5\sqrt{3}-\sqrt{15}}{20}$

51) $(3b)^{\frac{3}{5}}$

52) $b^{\frac{5}{2}}$

53) $\sqrt[3]{625a^4}$

54) $\sqrt[3]{3125v^5}$

55) $64m^9$

56) x^{20}

57) $65+33i$

58) 9

59) $-4-20i$

60) $5+8i$

61) $-\frac{1}{4}i$

62) $\frac{1}{4}i$

Solve.

$3|7-4n|-8=7$

$3|7-4n|=15$

$|7-4n|=5$ distance

$7-4n=-5$ $\quad$ $7-4n=5$

$-4n=-12$ $\quad$ $-4n=-2$

$n=3$ $\quad$ $n=\frac{1}{2}$

$n=\frac{1}{2}, 3$

$|x|=4$ $\quad$ $x=-4,4$