

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 accuracy 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.

$$\begin{aligned}
 78) \quad \frac{\sqrt{-10}}{\sqrt{8}-\sqrt{-2}} &= \frac{\sqrt{10}i \cdot \frac{2\sqrt{2}+\sqrt{2}i}{2\sqrt{2}+\sqrt{2}i}}{2\sqrt{2}-\sqrt{2}i \cdot \frac{2\sqrt{2}+\sqrt{2}i}{2\sqrt{2}+\sqrt{2}i}} \\
 &= \frac{\sqrt{10}i(2\sqrt{2}+\sqrt{2}i)}{(2\sqrt{2}-\sqrt{2}i)(2\sqrt{2}+\sqrt{2}i)} \\
 &= \frac{2\sqrt{20}i + \sqrt{20}i^2}{4\sqrt{2}\cdot\sqrt{2} - \sqrt{2}\cdot\sqrt{2}\cdot i^2} \\
 &= \frac{4\sqrt{5}i + 2\sqrt{5}(-1)}{8 - 2\boxed{i^2} = -1} \\
 &= \frac{4\sqrt{5}i - 2\sqrt{5}}{8+2} \\
 &= \frac{4\sqrt{5}i - 2\sqrt{5}}{10} \\
 &= \frac{4\sqrt{5}}{10}i - \frac{2\sqrt{5}}{10} \\
 &= \frac{\sqrt{5}}{5} - \frac{2\sqrt{5}}{5}i
 \end{aligned}$$

Simplify:

$$\begin{aligned}
 &\underline{-3i}(4-5i) \\
 &= -12i + 15\boxed{i^2} = -1 \\
 &= -12i - 15 \\
 &= -15 - 12i
 \end{aligned}$$

$$a+bi$$

Simplify:

$$\begin{aligned}
 & (1-i) \left(\frac{1}{2} + \frac{1}{2}i \right) \\
 &= \frac{1}{2} + \cancel{\frac{1}{2}i} - \cancel{\frac{1}{2}i} - \frac{1}{2} \boxed{i^2} = -1 \\
 &= \frac{1}{2} - \frac{1}{2}(-1) \quad \textcircled{1} \\
 &= \frac{1}{2} + \frac{1}{2}
 \end{aligned}$$

Simplify:

$$\begin{aligned}
 \frac{6}{5+2i} \cdot \frac{5-2i}{5-2i} &= \frac{6(5-2i)}{\underline{(5+2i)} \underline{(5-2i)}} \\
 &= \frac{30-12i}{25-4\boxed{i^2}} = -1 \\
 &= \frac{30-12i}{25+4} \\
 &= \frac{30-12i}{29} \\
 &= \frac{30}{29} - \frac{12}{29}i
 \end{aligned}$$

Semester Grade: www.math4tigers.org

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

$$\begin{aligned} .40(90\%) + .4(80\%) + .2x &= 89.5 \text{ A} \\ &= 79.5 \text{ B} \\ &= 69.5 \text{ C} \\ &= 59.5 \text{ D} \end{aligned}$$

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

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

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

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

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

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

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

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

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

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) $5 + 8i$

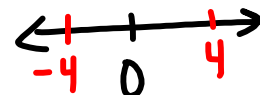
61) $-\frac{1}{4}i$

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

Solve.

$|x| = 4$ $x = -4, 4$

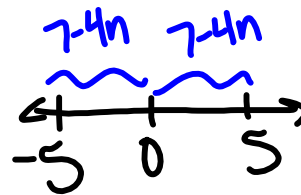
$3|7 - 4n| - 8 = 7$



$3|7 - 4n| = 15$

$|7 - 4n| = 5$

distance



$7 - 4n = -5$

$7 - 4n = 5$

$-4n = -12$

$-4n = -2$

$n = 3$

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

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