

Final Exam Study Guide Review Answers—Spring

- $x = \frac{\pi}{2}$
- $x = \frac{\pi}{6}, \frac{5\pi}{6}, \frac{7\pi}{6}, \frac{11\pi}{6}$
- $x = \frac{\pi}{2}, \frac{3\pi}{2}$
- $x = \frac{2\pi}{3}, \frac{4\pi}{3}$
- $x = \frac{\pi}{2}, \frac{3\pi}{2}, 0\pi$
- $x = 0\pi, \pi, \frac{3\pi}{4}, \frac{7\pi}{4}$
- $\sec^4 x$
- $\cot^2 x$
- $-\csc x$
- $\sec^4 x$
- $\tan x$
- $\cos^2 x$
- $\csc x$
- $\csc^2 x$
- $\tan x$
- $\sin x$
- Answers may vary—ask the teacher
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- $m\angle A = 121$; $a = 33.41$; $c = 13.97$
- $m\angle A = 72.21$; $m\angle B = 46.79$; $a = 32.66$
- $m\angle B = 14.92$; $m\angle C = 134.08$; $c = 27.90$
- $m\angle A = 36.18$; $m\angle B = 43.53$; $m\angle C = 100.29$
- $m\angle A = 96.23$; $m\angle C = 11.77$; $b = 74.62$
- $m\angle C = 98$; $a = 94.9$; $b = 100.02$
- $A = 7.03 \text{ units}^2$
- $A = 1.45 \text{ units}^2$
- $A = 198.83 \text{ units}^2$
- $m\angle B = 97.90$
- $m\angle B_1 = 40.27$; $m\angle C_1 = 110.73$; $c_1 = 28.94$
 $m\angle B_2 = 139.73$; $m\angle C_2 = 11.27$; $c_2 = 6.05$
- No Solution
- $c = 76.32 \text{ m}$
- $b = 13.02 \text{ ft.}$
- $x = 471.17 \text{ ft.}$
- $\theta = 38.66$
- $x = 344.72 \text{ ft.}$
- $\theta = 12.02$
- $m\angle B = 61$; $a = 5.33$; $b = 9.62$
- $m\angle A = 64.62$; $m\angle B = 25.38$; $a = 6.32$
- $m\angle A = 77$; $a = 5.85$; $b = 1.35$
- These are drawings—ask the teacher
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- $\|v\| = \sqrt{41} \approx 6.40$
- $\|v\| = 3\sqrt{5} \approx 6.71$
- $\|v\| = \sqrt{165} \approx 12.85$
- $\langle 7, -6 \rangle$
- $\langle 3, -4, 3 \rangle$
- $\langle 14, -7, -6 \rangle$
- No
- Yes
- $\theta = 60.26$
- $\theta = 198.43$
- $\theta = 180$
- $\theta = 348.69$
- $\theta = 160.56$
- $\theta = 168.61$
- 12.37 mph; N 75.96° E
- $x = 0\pi$

$$70. x = 0\pi, \pi, \frac{\pi}{6}, \frac{5\pi}{6}$$

71. Omit

$$72. x = 0\pi, \pi, \frac{\pi}{6}, \frac{7\pi}{6}$$

$$73. a_1 = 11; a_2 = \frac{17}{2}; a_3 = \frac{23}{3}; a_4 = \frac{29}{4}; a_5 = 7$$

$$74. a_1 = 3; a_2 = 6; a_3 = 12; a_4 = 24; a_5 = 48$$

$$75. a_1 = 2048; a_2 = 1024; a_3 = 512;$$

$$a_4 = 256; a_5 = 128$$

$$76. a_1 = 144; a_2 = 35.25; a_3 = 8.0625$$

$$a_4 = 1.265625; a_5 = -0.4335937$$

$$77. a_n = 6n - 19$$

$$78. a_n = 0.75(4)^{n-1}$$

$$79. a_n = -\frac{1}{64}(-8)^{n-1}$$

$$80. a_n = 13n + 186$$

$$81. a_n = 14(1.5)^{n-1}$$

$$82. a_n = -6n + 263$$

$$83. a_n = \frac{1}{256}(2)^{n-1}$$

$$84. a_n = a_{n-1} + 7; a_1 = 3$$

$$85. a_n = 2a_{n-1}; a_1 = 3$$

$$86. S_6 = 728$$

$$87. S_7 = -127$$

$$88. S_{15} = -105$$

$$89. S_{16} = 1632$$

$$90. S_9 = 262143$$

$$91. S_n = -750$$

$$92. S_n = \frac{16}{3}$$

$$93. S_n = -6780$$

$$94. S_n = 325521$$

$$95. S_n = 36$$

96. Does Not Exist

$$97. S_n = 3170$$