

Midterm Study Guide

Date _____ Period _____

Solve each equation by factoring.

1) $n^2 - 6n = 0$

2) $x^2 = 15x - 56$

3) $v^2 = 8 + 7v$

4) $x^2 = -8x - 7$

5) $x^2 + 5 = -6x$

6) $12x^2 = 252 - 30x$

7) $56m^2 + 208m = -120$

8) $49x^2 - 8 = -49x$

9) $18b^2 + 12 = -30b$

10) $6n^2 = -3 + 11n$

11) $2x^2 + 20x + 15 = 3 - 5x^2$

12) $73x^2 + 56 = 3x^2 + 138x$

13) $5x^2 + 3x + 2 = -x + 3$

14) $3p^2 - 15p + 28 = 3 + 5p$

15) $8k^2 - 21k + 8 = 3k^2 - 8k$

Simplify each expression.

16) $(3n^3 - 4n - 2) - (5n - 8 - 3n^3)$

17) $(4a^2 - 4a^3 - 2a^4) + (7a^3 - 8a^4 - 2a)$

18) $(7m - 4 - 7m^2) - (3 + 2m + 4m^2) - (7m^2 + 6)$

19) $(7 + 7x^3 - x) + (3x^4 + 4x^3 + 3x^2) + (8x^3 - 3x^2)$

Find each product.

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

21) $(5p + 5)(2p + 8)$

22) $(8p - 2)(6p + 2)$

23) $(8m + 5)(m - 5)$

24) $(8m + 2)(5m^2 + 8m - 4)$

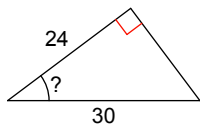
25) $(m - 5)(6m^2 - 8m + 7)$

26) $(5n - 8)(5n^2 + 2n - 8)$

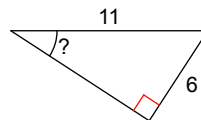
27) $(8m + 6)(8m^2 - 3m + 1)$

Find the measure of the indicated angle to the nearest degree.

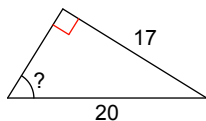
28)



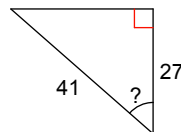
29)



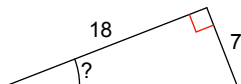
30)



31)

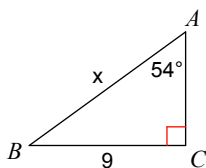


32)

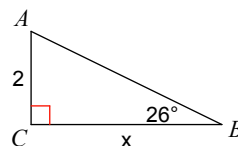


Find the measure of each side indicated. Round to the nearest tenth.

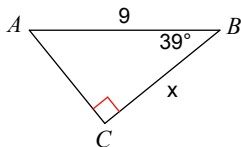
33)



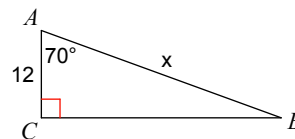
34)



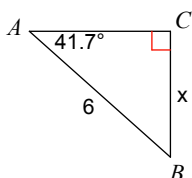
35)



36)

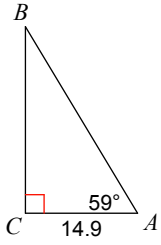


37)

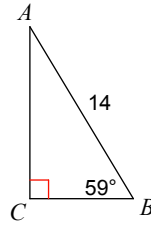


Solve each triangle. Round answers to the nearest tenth.

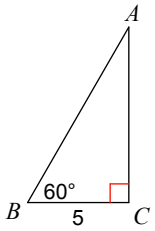
38)



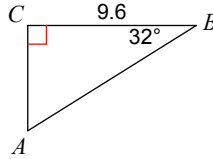
39)



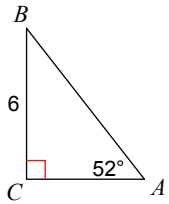
40)



41)



42)



Answers to Midterm Study Guide (ID: 1)

- | | | | |
|--|---|---------------------------------------|---|
| 1) $\{6, 0\}$ | 2) $\{8, 7\}$ | 3) $\{-1, 8\}$ | 4) $\{-7, -1\}$ |
| 5) $\{-1, -5\}$ | 6) $\left\{\frac{7}{2}, -6\right\}$ | 7) $\left\{-\frac{5}{7}, -3\right\}$ | 8) $\left\{\frac{1}{7}, -\frac{8}{7}\right\}$ |
| 9) $\left\{-\frac{2}{3}, -1\right\}$ | 10) $\left\{\frac{1}{3}, \frac{3}{2}\right\}$ | 11) $\left\{-\frac{6}{7}, -2\right\}$ | 12) $\left\{\frac{4}{7}, \frac{7}{5}\right\}$ |
| 13) $\left\{\frac{1}{5}, -1\right\}$ | 14) $\left\{\frac{5}{3}, 5\right\}$ | 15) $\left\{\frac{8}{5}, 1\right\}$ | 16) $6n^3 - 9n + 6$ |
| 17) $-10a^4 + 3a^3 + 4a^2 - 2a$ | 18) $-18m^2 + 5m - 13$ | 19) $3x^4 + 19x^3 - x + 7$ | |
| 20) $6n^2 - 47n + 35$ | 21) $10p^2 + 50p + 40$ | 22) $48p^2 + 4p - 4$ | 23) $8m^2 - 35m - 25$ |
| 24) $40m^3 + 74m^2 - 16m - 8$ | 25) $6m^3 - 38m^2 + 47m - 35$ | 26) $25n^3 - 30n^2 - 56n + 64$ | |
| 27) $64m^3 + 24m^2 - 10m + 6$ | 28) 37° | 29) 33° | |
| 30) 58° | 31) 49° | 32) 21° | 33) 11.1 |
| 34) 4.1 | 35) 7 | 36) 35.1 | 37) 4 |
| 38) $m\angle B = 31^\circ, a = 24.8, c = 28.9$ | 39) $m\angle A = 31^\circ, a = 7.2, b = 12$ | | |
| 40) $m\angle A = 30^\circ, b = 8.7, c = 10$ | 41) $m\angle A = 58^\circ, b = 6, c = 11.3$ | | |
| 42) $m\angle B = 38^\circ, b = 4.7, c = 7.6$ | | | |