



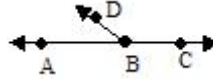
Houston Community College

Math 0308: Fundamentals of Mathematics II

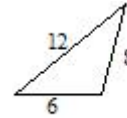
Review for Final Exam

1. Combine Like terms $5x - (-6x) - 9 - (-10x) + 5$ A) $-4 + 21x$ B) $1x + 16x$ C) $-4 - 11x$ D) $-4 - 11$

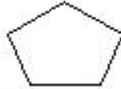
2. Tell whether angle $\angle ABC$ is acute, right, obtuse or straight.
A) Acute B) Obtuse C) Right D) Straight



3. Classify the triangle as equilateral, isosceles, or scalene. Then classify it as right, obtuse, or acute.
A) Isosceles, acute B) Scalene, obtuse
C) Isosceles, obtuse D) Scalene, acute

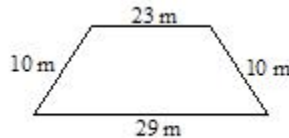


4. Classify the polygon by name.
A) pentagon B) hexagon
C) quadrilateral D) heptagon



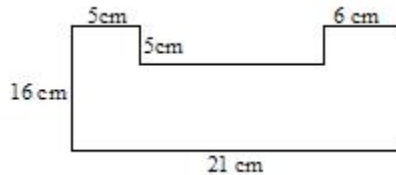
5. Find the sum of the angle measures of the pentagon. A) 900° B) 720° C) 360° D) 540°

6. Find the perimeter of the polygon.
A) 230m B) 72m
C) 29m D) 39m



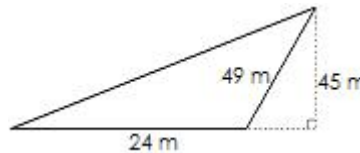
7. A one-story building is 490 ft by 120 ft. If a square patio with sides 28 ft occupies the center of the building, how much area remains for offices?
A) 1192ft^2 B) 58.016ft^2 C) 1220ft^2 D) 1108ft^2

8. Find the area of the shape to the right.
A) 286cm^2 B) 306cm^2
C) 68cm^2 D) 321cm^2

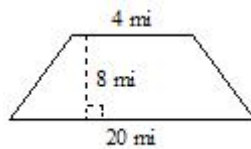


9. Find the area of the triangle to the right.

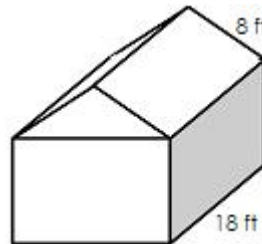
- A) 1102.5m^2 B) 1080m^2 C) 540m^2 D) 1102.5m^2



10. Find the area of the trapezoid.
A) 40mi^2 B) 96mi^2
C) 32mi^2 D) 3200mi^2

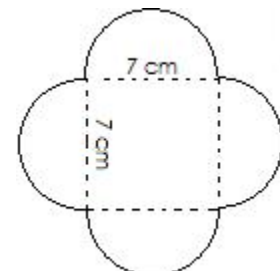
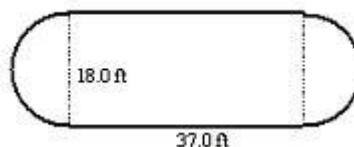


11. Find the total area of the roof of the garage.
A) 432ft^2 B) 288ft^2 C) 144ft^2 D) 52ft^2



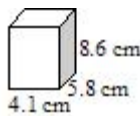
12. Find the perimeter. Use 3.14 for π .
A) 57.96 cm B) 21.98 cm
C) 71.96 cm D) 43.96 cm

13. Find the area. Use 3.14 for π .
A) 920.34ft^2 B) 793.17ft^2
C) Not enough data D) 722.52ft^2



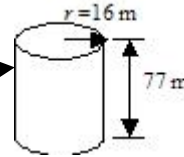
14. Find the volume.
 A) 18.5 cm^3
 C) 204.508 cm^3

- B) 53.98 cm^3
 D) 204.508 cm^2



15. Find the volume of the circular cylinder. Use $\frac{22}{7}$ for π .
 A) $61,952 \text{ m}^3$
 C) 3872 m^3

- B) 298.144 m^3
 D) 247.808 m^3



16. Find the volume of a sphere with radius 4.0 m. Round your answer to the nearest thousandth. Use 3.14 for π .
 A) 267.947 m^3
 C) 150.72 m^3

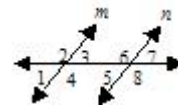
- B) 2143.573 m^3
 D) 66.987 m^3

17. Find the volume of the circular cone. Use $\frac{22}{7}$ for π .
 A) 1078 mm^3
 C) $67,914 \text{ mm}^3$

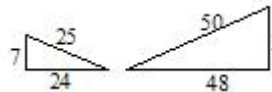
- B) $22,638 \text{ mm}^3$
 D) $71,148 \text{ mm}^3$



18. Use the properties of parallel lines to solve the problem. If $m \parallel n$ and $m \angle 6 = 123^\circ$, what are the measures of the other angles.
 A) $m \angle 5 = m \angle 7 = m \angle 8 = 123^\circ, m \angle 1 = m \angle 2 = m \angle 3 = 57^\circ$
 B) $m \angle 2 = m \angle 4 = m \angle 8 = 123^\circ, m \angle 1 = m \angle 3 = m \angle 5 = m \angle 7 = 33^\circ$
 C) $m \angle 2 = m \angle 4 = m \angle 8 = 123^\circ, m \angle 1 = m \angle 3 = m \angle 5 = m \angle 7 = 67^\circ$
 D) $m \angle 2 = m \angle 4 = m \angle 8 = 123^\circ, m \angle 1 = m \angle 3 = m \angle 5 = m \angle 7 = 57^\circ$



19. The two triangles are similar. Find the missing lengths.
 A) $x = 7$ B) $x = 14$ C) $x = 21$ D) $x = 10$



20. Solve the equation. $\frac{2x}{5} - \frac{x}{3} = 4$ A) 120 B) 60 C) -60 D) -120

21. Solve the equation. $-5x + 2(2x - 2) = 3 - 8x$ A) $-\frac{1}{7}$ B) $\frac{1}{9}$ C) 1 D) -1

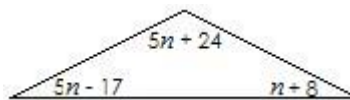
22. The sum of twice a number and 4 less than the number is the same as the difference between -16 and the number. What is the number? A) -3 B) -2 C) -6 D) -4

23. The sum of three consecutive integers is 480. Find the integers.
 A) 158, 159, 160 B) 160, 161, 162 C) 158, 160, 162 D) 159, 160, 161

24. If the first and third of three consecutive odd integers are added, the result is 51 less than five times the second integer. Find the third integer. A) 34 B) 17 C) 15 D) 19

25. Find the measure of each angle in the triangle.
 A) $58^\circ, 99^\circ, 23^\circ$
 C) $32^\circ, 99^\circ, 23^\circ$

- B) $75^\circ, 75^\circ, 15^\circ$
 D) $58^\circ, 9^\circ, 23^\circ$

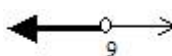
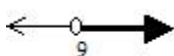


26. Solve for the given letter. $V = \frac{1}{3}Bh$ for h . A) $h = \frac{V}{3B}$ B) $h = \frac{3B}{V}$ C) $h = \frac{B}{3V}$ D) $h = \frac{3V}{B}$

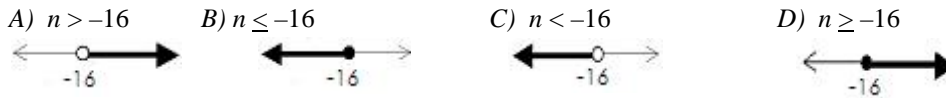
27. Jim drove 153 miles in 3 hours. If he can keep the same pace, how long will it take him to drive 969 miles. Use a proportion to solve the problem. A) 19 hours B) 38 hours C) 29 hours D) 459 hours

28. Divide and simplify: $\frac{t^{-2}}{t^{-8}}$ A) t^{-10} B) t^6 C) t^{10} D) t^{-6}

29. Solve using the addition principle. Then graph. $9t + 12 \geq 8t + 19$
 A) $t > 9$ B) $t \geq 7$ C) $t < 9$ D) $t \leq 7$



30. Solve using the multiplication principle. Then graph. $\frac{n}{-4} < 4$



31. Simplify the expression. $\left(\frac{7x^4}{3y^3z^5}\right)^2$ A) $\frac{49x^8}{9y^6z^7}$ B) $\frac{49x^6}{9y^5z^{10}}$ C) $\frac{49x^8}{9y^6z^{10}}$ D) $\frac{49x^6}{9y^5z^7}$
32. Convert to decimal notation 1.5×10^7 A) 105 B) 15,000,000 C) 1,500,000 D) 150,000,000

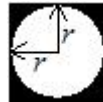
33. Evaluate the polynomial $2x^3 + 5x^2 - 27$ for $x = -3$ A) -36 B) -46 C) -76 D) -48

34. Identify the polynomial as monomial, binomial, trinomial and give its degree. $12y^4 - 7y^3 - 6$
 A) Binomial, degree 4 B) Trinomial, degree 8 C) Trinomial, degree 7 D) Trinomial, degree 4

35. Subtract. $(5n^5 - 9n^2 + 3) - (-2n^2 + 3n^5 - 7)$ A) $2n^5 - 7n^2 - 4$ B) $5n^7$ C) $2n^5 - 7n^2 + 10$ D) $2n^5 - 6n^2 - 4$

36. Find a polynomial for the shaded area of the figure.

A) πr^2 B) $(\pi - 1)r^2$ C) $(\pi - 4)r^2$ D) $(4 - \pi)r^2$



37. Multiply $(-5m^3z^4)(3m^4z^2)$
 A) $-15mz^7$ B) $-15m^6z^7$ C) $-15mz^6$ D) $-15m^7z^6$

38. Multiply $(3x + 5)(3x - 5)$ A) $3x^2 - 30x - 25$ B) $9x^2 - 25$ C) $9x^2 - 30x - 25$ D) $9x^2 - 30x + 25$

39. Multiply $(4p - 1)(16p^2 + 4p + 1)$ A) $16p^3 - 1$ B) $64p^3 - 1$ C) $64p^3 + 20p^2 - 1$ D) $64p^3 + 1$

40. Multiply $(3x - 9)(3x - 9)$ A) $3x^2 - 54x - 55$ B) $9x^2 - 54x + 81$ C) $3x^2 - 55x + 81$ D) $9x^2 + 81x - 54$

41. Multiply $(5m + 7)^2$ A) $25m^2 + 70m + 49$ B) $5m^2 + 70m + 49$ C) $25m^2 + 49$ D) $5m^2 + 49$

42. Find the degree of the polynomial: $x^6yz - x^8y^2 - 2x^5y^2z^3$ A) 10 B) 8 C) 5 D) 6

43. Divide $\frac{4t^5 - 6t^4 + 8t - 3}{2t^2}$ A) $2t^3 - 3t^2 + \frac{4}{t} - \frac{3}{2t^2}$ B) $2t^2 - 3t + 4 - \frac{3}{2t}$ C) $2t^3 - 3t^2$ D) none of these

44. Factor out the greatest common factor. $5x(3x - 2) - 3(3x - 2)$
 A) $(5x - 3)(3x - 2)$ B) $(15x + 3)(x + 2)$ C) $(5x + 3)(3x + 2)$ D) $(15x - 3)(x - 2)$

45. One of the factors of $x^2 - x - 42$ is: A) Prime B) $x + 6$ C) $x + 1$ D) $x + 7$

46. One of the factors of $9x^2 + 12x + 4$ is: A) $x + 2$ B) Prime C) $3x - 2$ D) $3x + 2$

47. Factor completely. $5x^2 - 30x + 45$ A) $5(x - 3)^2$ B) $5(x - 9)(x + 1)$ C) $(x - 3)(5x - 15)$ D) $(5x - 15)(x - 3)$

48. True or False, the given binomial is the difference of two squares. $x^2 + 49$ A) True B) False

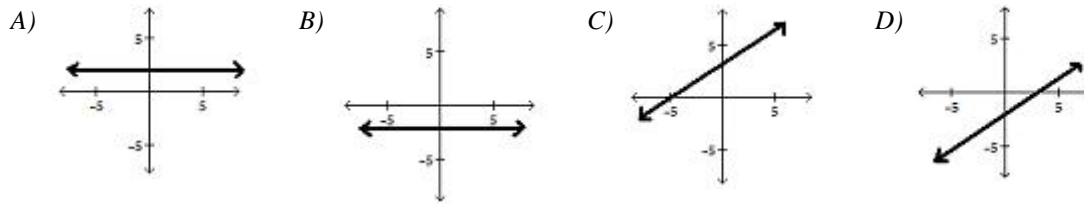
49. Factor completely. $25x^2 - 9$ A) $(5x + 3)^2$ B) Prime C) $(5x - 3)^2$ D) $(5x + 3)(5x - 3)$

50. Factor completely. $12a^3 + 9a^2b + 20ab^2 + 15b^3$
 A) $(3a^2 + 5b)(4a + 3b)$ B) $(3a^2 + 5b^2)(4a + 3b)$ C) $(12a^2 + 5b^2)(a + 3b)$ D) $(3a^2 - 5b)(4a - 3b^2)$

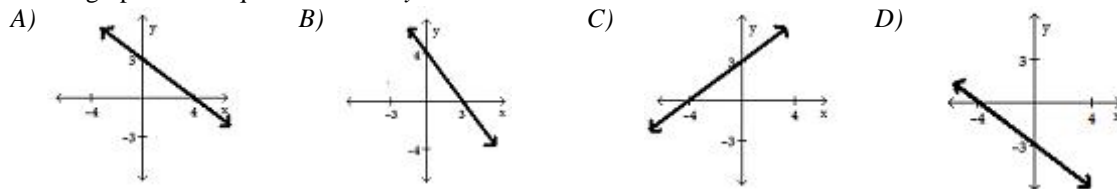
51. Factor completely. $x^2 - x - 6$ A) $(x - 2)(x - 3)$ B) $(x + 2)(x - 3)$ C) $(x - 1)(x - 6)$ D) $(x + 2)(x + 3)$

52. The length of a rectangular frame is 8 cm more than the width. The area of the frame is 105 square cm. Find the width of the frame. A) 15 cm B) 23 cm C) 10 cm D) 7 cm

53. Multiply and if possible, simplify. $\frac{k^2 + 14k + 49}{k^2 + 16k + 63} \cdot \frac{k^2 + 9k}{k^2 + 16k + 63}$
 A) $\frac{k}{k+9}$ B) $\frac{k^2+9k}{k+9}$ C) $\frac{k}{k^2+16k+63}$ D) $\frac{1}{k+9}$
54. Divide and, if possible, simplify. $\frac{3p-3}{9} \div \frac{10p-10}{4p^2}$
 A) $\frac{12p^3-12p^2}{10p^2-10p}$ B) $\frac{2p^2}{15}$ C) $\frac{30p^2+60p+30}{4p^3}$ D) $\frac{5}{6p}$
55. Use the Pythagorean theorem to find the height of a triangle whose hypotenuse is 13 meters long and whose base is 5 meters long. A) 9 meters B) 12 meters C) 7 meters D) 14 meters
56. Graph the line which passes through the points (3,2) and (-4,2).



57. Solve the equation. $-53 = 7x - 4$ A) 3 B) -52 C) -56 D) -7
58. Solve the equation. $4t + 6 - (-9 - 3t) = 0$ A) -1/3 B) -15/7 C) 7/15 D) -7/15
59. Find $-(-x)$ when $x = -56$ A) 0 B) -56 C) 56 D) 1/56
60. Subtract. $2 + (-11) - (-17) - 6 + (-11)$ A) -9 B) 3 C) 13 D) -31
61. Simplify. $3[-6 + 10(5 - 12)]$ A) -98 B) -228 C) -88 D) 96
62. Solve $P = 2L + 2W$ for W . A) $W = \frac{P-L}{2}$ B) $W = P - 2 - L$ C) $W = \frac{P}{2} - L$ D) $W = P - 2L$
63. Subtract. $(2x^2 - 3x + 5) - (4x^2 - 7x - 4)$ A) $-2x^2 + 4x + 9$ B) $6x^2 - 10x + 1$ C) $-2x^2 - 10x + 1$ D) $6x^2 + 4x + 9$
64. Multiply. $(6 \times 10^{-12}) \times (7 \times 10^3)$ A) 4.2×10^{-9} B) 4.2×10^{-10} C) 4.2×10^{-8} D) 4.2×10^{-36}
65. Find the complement of a 35° angle. A) 55° B) 65° C) 125° D) 135°
66. Select the graph of the equation. $3x - 4y = -12$



1	A	2	D	3	B	4	A	5	D	6	B	7	B	8	A	9	C	10	B	11	B
12	D	13	A	14	C	15	A	16	A	17	B	18	D	19	B	20	B	21	C	22	A
23	D	24	D	25	A	26	D	27	A	28	B	29	B	30	A	31	C	32	B	33	A
34	D	35	C	36	D	37	D	38	B	39	B	40	B	41	A	42	A	43	A	44	A
45	B	46	D	47	A	48	B	49	D	50	B	51	B	52	D	53	A	54	B	55	B
56	A	57	D	58	B	59	B	60	A	61	B	62	C	63	A	64	C	65	A	66	C