

Summer Math Skills - Mason High School

Solve each proportion.

1) $\frac{8}{12} = -\frac{x}{20}$

2) $\frac{13}{6} = \frac{19}{a}$

3) $-\frac{13}{3} = \frac{8}{b}$

4) $\frac{n}{3} = \frac{15}{2}$

5) $\frac{10}{6} = \frac{b}{4}$

Solve each equation.

6) $-(12n - 12) - 4(n + 3) = -8n + 3n$

7) $-2(-7n - 10) = 5 - 5(n - 3)$

$$8) \quad 10(n + 3) = 10 + 10(n + 4)$$

$$9) \quad -(12x + 2) + 2(4x - 7) = -3x - 5 + x - 7$$

$$10) \quad -9(1 + r) - 8 = -1 - (7r - 12)$$

Evaluate each expression.

$$11) \quad -\frac{5}{9} - -4 + \frac{1}{2}$$

$$12) \quad \frac{15}{8} + -\frac{43}{22} - -\frac{3}{7}$$

$$13) \quad \frac{26}{23} - \frac{9}{7} - 2$$

$$14) \quad \frac{23}{12} + -\frac{3}{13} - \frac{13}{10}$$

$$15) \quad 13 - -\frac{9}{10} - -\frac{10}{7}$$

$$16) \quad \frac{23}{24} - 11 + -\frac{26}{19}$$

$$17) \frac{2}{5} + -\frac{3}{2} - \frac{4}{3}$$

$$18) -\frac{7}{8} + \frac{1}{25} + -\frac{7}{10}$$

$$19) -\frac{20}{11} - \frac{15}{17} - -2$$

$$20) \frac{11}{6} + \frac{4}{5} + -1$$

Simplify each expression.

$$21) (8 + 4x) + (x + 6)$$

$$22) (7a^4 + 1) - (a^4 + 6)$$

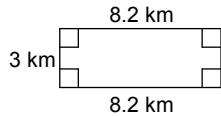
$$23) (8n^2 - 8) + (n^2 + 6)$$

$$24) (4n^4 + 2n^2) - (2n^4 + 5n^2)$$

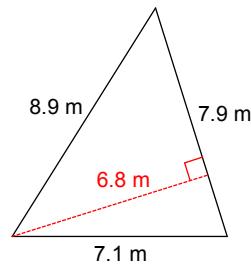
$$25) (3k^3 + k^2) - (5k^2 + k^3)$$

Find the area of each.

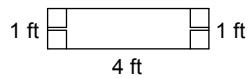
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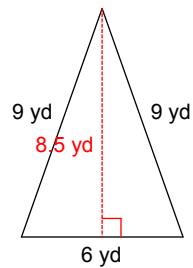
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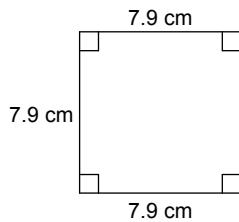
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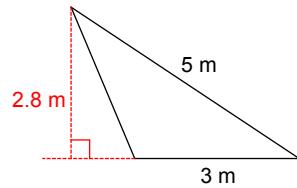
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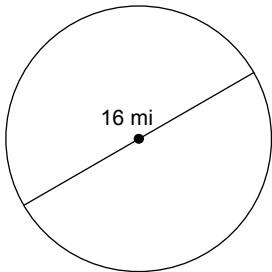


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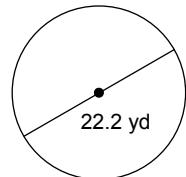


Find the area of each. Round to the nearest tenth.

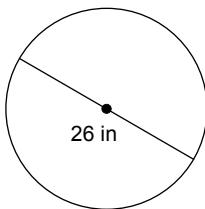
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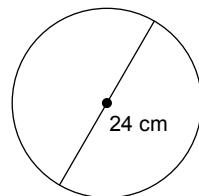
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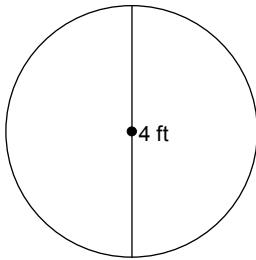
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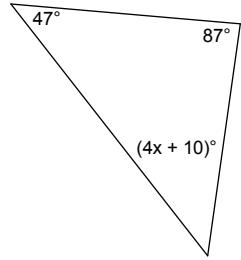


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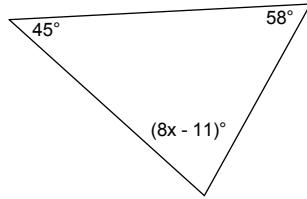


Find the value of x.

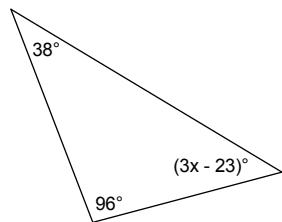
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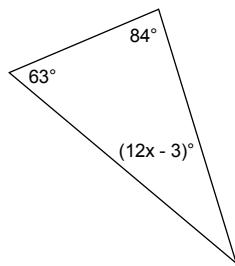
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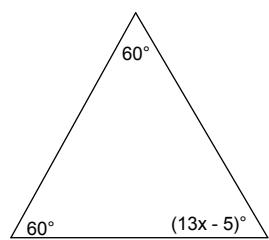
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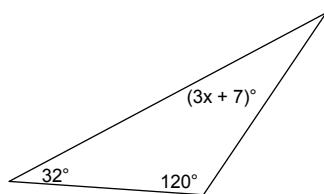
40)



41)



42)



Simplify each expression.

43) $-(k - 1) - 3(k - 4)$

44) $-6(x + 3) + 4(1 - 5x)$

45) $7(-5p - 8) + p(6p + 1)$

46) $2(-8k + 3) - 2k(3k + 1)$

47) $6(v - 6) - 7(6v - 5)$

48) $4(1 + 8b) + 2(4 + 4b)$

Simplify. Your answer should contain only positive exponents.

49) $\frac{6yx^2}{9yx^3}$

50) $\frac{4x^0y^2}{10y^2}$

51) $\frac{7u^5v^0}{5uv^2}$

52) $\frac{5y^4}{6yx^0}$

Solve each problem.

53) 380% of 119.5 minutes is what?

54) 44% of 39 minutes is what?

55) 48% of what is 81 tons?

56) 14% of what is 58 inches?

57) 123.5 minutes is what percent of 156 minutes?

58) 144 minutes is 51% of what?

Find each product.

59) $(3x - 6)(5x + 7)$

60) $(7p - 7)(-4p + 8)$

61) $(-6x + 1)(5x - 2)$

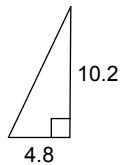
62) $(-5x + 1)(3x - 7)$

$$63) (-7x - 1)(-4x - 4)$$

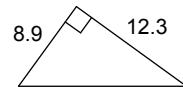
$$64) (4m + 6)(-8m + 7)$$

Find each missing length to the nearest tenth.

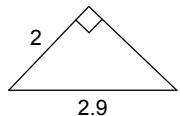
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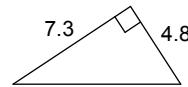
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67)



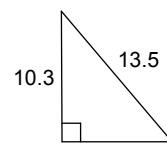
68)



69)



70)



Answers to Summer Math Skills - Mason High School

- | | | | |
|--------------------------|--------------------------|--------------------------|--------------------------|
| 1) $\{-13.33\}$ | 2) $\{8.76\}$ | 3) $\{-1.84\}$ | 4) $\{22.5\}$ |
| 5) $\{6.66\}$ | 6) $\{0\}$ | 7) $\{0\}$ | 8) No solution. |
| 9) $\{-2\}$ | 10) $\{-14\}$ | 11) $\frac{71}{18}$ | 12) $\frac{215}{616}$ |
| 13) $-\frac{347}{161}$ | 14) $\frac{301}{780}$ | 15) $\frac{1073}{70}$ | 16) $-\frac{5203}{456}$ |
| 17) $-\frac{73}{30}$ | 18) $-\frac{307}{200}$ | 19) $-\frac{131}{187}$ | 20) $\frac{49}{30}$ |
| 21) $5x + 14$ | 22) $6a^4 - 5$ | 23) $9n^2 - 2$ | 24) $2n^4 - 3n^2$ |
| 25) $2k^3 - 4k^2$ | 26) 24.6 km^2 | 27) 26.86 m^2 | 28) 4 ft^2 |
| 29) 25.5 yd^2 | 30) 62.41 cm^2 | 31) 4.2 m^2 | 32) 201.1 mi^2 |
| 33) 387.1 yd^2 | 34) 530.9 in^2 | 35) 452.4 cm^2 | 36) 12.6 ft^2 |
| 37) 9 | 38) 11 | 39) 23 | 40) 3 |
| 41) 5 | 42) 7 | 43) $-4k + 13$ | 44) $-26x - 14$ |
| 45) $-34p - 56 + 6p^2$ | 46) $-18k + 6 - 6k^2$ | 47) $-36v - 1$ | 48) $12 + 40b$ |
| 49) $\frac{2}{3x}$ | 50) $\frac{2}{5}$ | 51) $\frac{7u^4}{5v^2}$ | 52) $\frac{5y^3}{6}$ |
| 53) 454.1 minutes | 54) 17.2 minutes | 55) 168.8 tons | 56) 414.3 inches |
| 57) 79.2% | 58) 282.4 minutes | 59) $15x^2 - 9x - 42$ | 60) $-28p^2 + 84p - 56$ |
| 61) $-30x^2 + 17x - 2$ | 62) $-15x^2 + 38x - 7$ | 63) $28x^2 + 32x + 4$ | 64) $-32m^2 - 20m + 42$ |
| 65) 11.3 | 66) 15.2 | 67) 2.1 | 68) 8.7 |
| 69) 15.5 | 70) 8.7 | | |