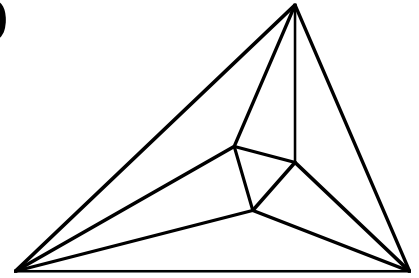
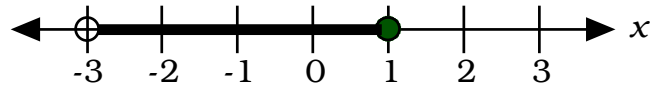


Meet 4 - Event A 2008-2009

Questions are worth 2-2-2-4-4 points respectively.
Remember your units.



_____ 1. Write the inequality graphed below:



_____ 2. Solve for x if $\sqrt{x} = 4\sqrt{2}$.

_____ % 3. The side of a square is what percent of its perimeter?

_____ 4. On a map, a four sided lot measured $1 \frac{1}{4}$ inches, 2 inches, $3 \frac{1}{8}$ inches, and $2 \frac{3}{4}$ inches. If the scale is 1 inch = 50 feet, what is the perimeter of the lot?

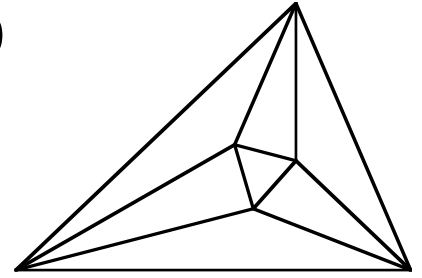
_____ 5. What is the length of the diagonal of a rectangle that is 5.1 cm by 6.8 cm?

Name _____ School _____
©2008 by the Minnesota Junior High School Mathematics League

Meet 4 - Event A 2008-2009

Answers

Questions are worth 2-2-2-4-4 points respectively.
Remember your units.



$-3 < x \leq 1$ 1.
or $x > -3$ and $x \leq 1$

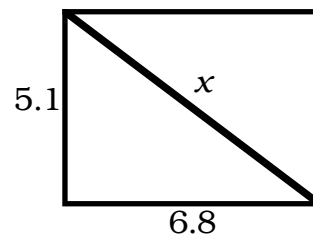
32 2. $4\sqrt{2} = \sqrt{16} \cdot \sqrt{2} = \sqrt{32}$

25% 3. $\frac{x}{4x} \times 100 = \frac{1}{4} \times 100 = 25\%$

456.25 ft 4. $1\frac{1}{4} + 2 + 3\frac{1}{8} + 2\frac{3}{4} = 8\frac{9}{8} = 9\frac{1}{8}$ in, $9\frac{1}{8} \times 50 = \frac{73}{8} \times 50 = 456.25$ ft
or 456 ft 3 in

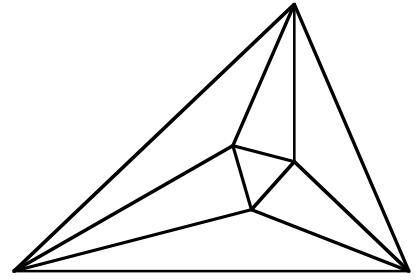
(units required)

8.5 cm 5. $x = \sqrt{5.1^2 + 6.8^2} = \sqrt{72.25} = 8.5$ cm
(units required)



Meet 4 - Event B 2008-2009

Questions are worth 2-2-2-4-4 points respectively.
Remember your units.

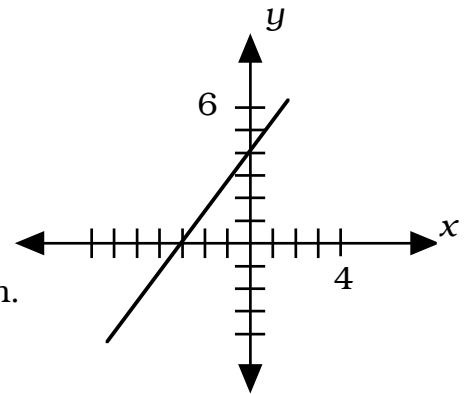


_____ 1. Which line has a slope of zero?
A. $x = -2$ B. $y = 4$ C. $y = 2x - 1$ D. $y = 3x$ E. $x = y$

_____ sq. units 2. What is the area formed by the lines $x = 6$, $y = 8$, $x = 2$, and $y = -2$?

_____ 3. What is the slope of $2x + 3y = 6$?

_____ 4. Write the equation of this line in $y = mx + b$ form.

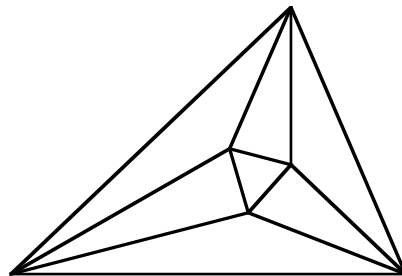


_____ 5. What is the area of the triangle formed by the x and y axes and $y = 2x - 6$?

Meet 4 - Event B 2008-2009

Answers

Questions are worth 2-2-2-4-4 points respectively.
Remember your units.



B 1. Horizontal lines have a slope of zero. So B or $y = 4$.
 or $y = 4$

40 sq. units 2.

Base = $6 - 2 = 4$
 Height = $8 - (-2) = 10$
 Area = $4(10) = 40$

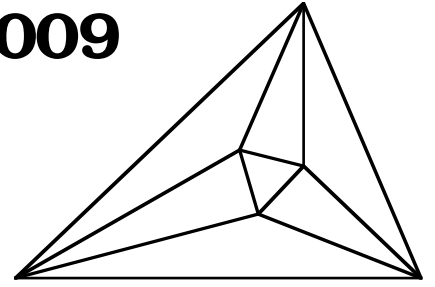
$-\frac{2}{3}$ 3. $\frac{3y}{3} = \frac{-2x}{3} + \frac{6}{3}$, $y = -\frac{2}{3}x + 2$, slope = $-\frac{2}{3}$

$y = \frac{4}{3}x + 4$ 4. y -intercept=4, slope= $\frac{4}{3}$

9 sq. units 5. Intercepts are $(0, -6)$ and $(3, 0)$, so the legs of the right triangle are lengths of 6 and 3. $A = (1/2)(6)(3) = 9$ square units. Refer to question 2 for proper units for area when the units of length are not known.
 3 points of the 9
 1 point for the
 squares or square units

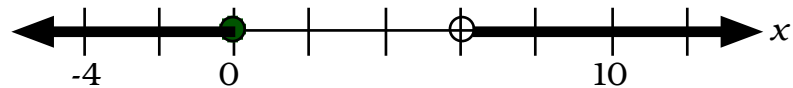
Meet 4 - Team Event 2008-2009

Questions are worth 4 points each.
Remember your units.



_____ 1. If Jim's maximum heart rate is 180 beats per minute, and, when he is exercising, his heart rate should be at or between 70% and 80% of his maximum, what should his exercising heart rate, r , be in beats per 10 seconds?

_____ 2. Write the inequality graphed below:



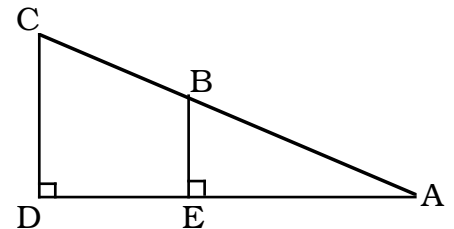
_____ 3. If the diagonal of a square is 22.6274 inches, what is the area of the square, to the nearest unit?

_____ 4. If $14 = \sqrt{49x^2}$, what are all the possible values for x ?

_____ 5. What is the area of the triangle formed by: $y = 0$, $y = -x + 4$, and $y = \frac{4}{3}x + 4$?

_____ 6. What is the perimeter of the triangle in problem 5, exactly?

_____ 7. Find the length, BC , exactly if $AB=CD=5\text{cm}$, $BE=3\text{cm}$.



_____ 8. In the drawing in problem 7, find ED , exactly, if $AB=CD=5\text{cm}$, $BC=8\text{cm}$.

_____ 9. Write as an inequality: x is at most six.

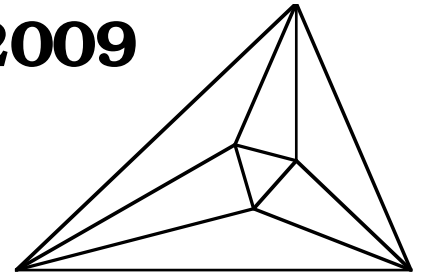
_____ 10. Solve for x : $4 - 3x > 13$.

Meet 4 - Team Event

2008-2009

Answers

Questions are worth 4 points each.
Remember your units.



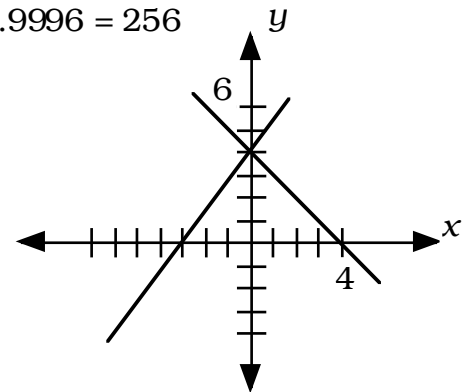
$\frac{21 \leq x \leq 24}{\text{or } \{21, 22, 23, 24\}}$ 1. $180 \times 0.7 = 126, 180 \times 0.8 = 144, \frac{10}{60} = \frac{1}{6}, 126 \times \frac{1}{6} = 21, 144 \times \frac{1}{6} = 24$

$\frac{x \leq 0, x > 6}{\text{(may have "or" but NOT "and")}}$ 2.

$\frac{256 \text{ in}^2}{\text{(units required)}}$ 3. $x^2 + x^2 = 22.6274^2, 2x^2 = 511.999, x^2 = 255.9996 = 256$

$\frac{2, -2}{\text{(units required)}}$ 4. $14^2 = 196 = 49x^2, x^2 = 4, x = 2 \text{ or } -2$

$\frac{14 \text{ sq. units}}{\text{(units required)}}$ 5. Base = $4 - (-3) = 7$ units
Height = 4 units, $A = \frac{1}{2}(7)(4) = 14$



$\frac{(12 + 4\sqrt{2}) \text{ units}}{\text{or } 4(3 + \sqrt{2}) \text{ units}}$ 6. Left side = $\sqrt{3^2 + 4^2} = 5$, Right side = $\sqrt{4^2 + 4^2} = \sqrt{32} = 4\sqrt{2}$
Base = 7, $P = 5 + 7 + 4\sqrt{2} = 12 + 4\sqrt{2}$
units required

$\frac{3\frac{1}{3} \text{ cm}}{\text{(units required)}}$ 7. $\frac{AB}{AC} = \frac{BE}{CD}$ so $\frac{5}{AC} = \frac{3}{5}, AC = \frac{25}{3}, BC = \frac{25}{3} - \frac{15}{3} = \frac{10}{3} = 3\frac{1}{3} \text{ cm}$

$\frac{7\frac{5}{13} \text{ cm}}{\text{(units required)}}$ 8. $AC = 5 + 8 = 13 \text{ cm}, AD = \sqrt{13^2 - 5^2} = 12, \frac{AB}{AC} = \frac{AE}{AD} = \frac{5}{13} = \frac{AE}{12}, AE = \frac{60}{13}$
 $12 - \frac{60}{13} = \frac{96}{13} = 7\frac{5}{13} \text{ cm}$

$\frac{x \leq 6}{\text{(units required)}}$ 9. This means x is 6 or less.

$\frac{x < -3}{\text{(units required)}}$ 10. $4 - 3x > 13, -3x > 9, x < -3$