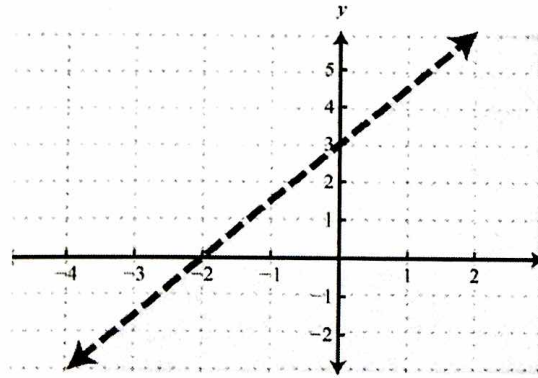


Flashback #5

1. Which of the following attains a minimum value at (4, -1)?

$3x + 2y$	$3x + 4y$	$3x + 10y$	$10x + 3y$
$3(4) + 2(-1)$	$3(4) + 4(-1)$	$3(4) + 10(-1)$	$10(4) + 3(-1)$
$12 - 2$	$12 - 4$	$12 - 10$	$40 - 3$
10	8	2	37

2. Give the inequality that can be represented by the following graph.



test
 $0 - \frac{3}{2}(0) + 3$
 $0 < 3 \rightarrow y < \frac{3}{2}x + 3$

$y = mx + b$ $m = \frac{3}{2}$
 $y = \frac{3}{2}x + 3$
 dashed line > or <

3. Given that the zeros of a quadratic function are -5 and 9, and the graph has a y-intercept of -90, what is the vertex of the function?

$y = a(x - p)(x - q)$
 $y = a(x - (-5))(x - 9)$
 $y = a(x + 5)(x - 9)$
 $-90 = a(0 + 5)(0 - 9)$

line of Symm $\frac{-5+9}{2} = 2$
 $(0, -90)$
 $-90 = a(5)(-9)$
 $\frac{-90}{-45} = a \frac{-45}{-45}$
 $2 = a$

Equation
 $y = +2(x+5)(x-9)$
 $y = +2(2+5)(2-9)$
 $y = 2(7)(-7)$
 $y = -98$
 Vertex (2, -98)

4. Factor $20x^2 + 6x - 8$

remove GCF: $2(10x^2 + 3x - 4)$
 $2(5x + 4)(2x - 1)$

5. Describe the graph $y = -3(x+5)^2 - 2$

opens down
 skinny
 $a = 3$

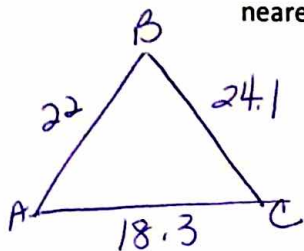
vertex $(-5, -2)$ ∴ line of symmetry is $x = -5$
 and y-int ($x=0$) $-3(5)^2 - 2 = -75 - 2 = -77$
 $(0, -77)$

6. The average mass of golf balls produced at a factory is 45.6 grams 0.3 grams. The results are accurate 19 out of 20 times. Determine the confidence level, confidence interval and margin of error.

confidence level $\frac{19}{20} \rightarrow 95\%$
 confidence interval $45.6 - 0.3 = 45.3g \rightarrow 45.9g$
 margin of error ± 0.3 grams

7. In triangle ABC , $a = 24.1\text{cm}$, $b = 18.3\text{cm}$ and $c = 22\text{cm}$. Determine the largest angle to the nearest tenth of a degree.

→ opposite largest side



∴ Find $\angle A$

$$a^2 = b^2 + c^2 - 2bc \cos A$$

$$24.1^2 = 18.3^2 + 22^2 - 2(18.3)(22) \cos A$$

$$580.81 - 334.89 - 484 = -805.2 \cos A$$

$$-238.08 = -805.2 \cos A$$

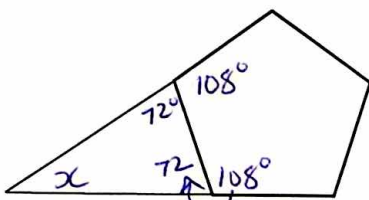
$$\frac{-238.08}{-805.2} = \frac{-805.2 \cos A}{-805.2}$$

$$0.295678... = \cos A$$

$$\cos^{-1}(0.295678...) = A$$

$$\underline{a = 72.8^\circ}$$

8. The diagram shows a regular pentagon and a triangle. The value of x and explain your reasoning.



① $S(n) = 180(n-2)$

$S(5) = 180(5-2)$

$S(5) = 180(3)$

$S(5) = 540^\circ$

∴ each interior $\angle = \frac{540}{5} = 108^\circ$

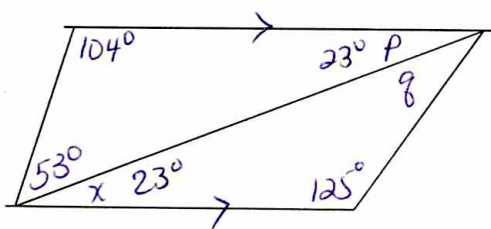
② Supp. \angle s
 $180 - 108 = 72^\circ$
 for the exterior \angle s

③

All Δ 's = 180°

∴ $180 - 72 - 72 =$
 $180 - 144 = \underline{36^\circ} = x$

9. Determine the missing angles and provide your reasoning.



$\angle p = 180 - 104 - 53^\circ$ $\Delta = 180^\circ$
 $180 - 157$

$\angle p = 23^\circ$

$\angle x = \angle p = 23^\circ$ alternate interior \angle s

$\angle q = 180 - 125 - 23$ $\Delta = 180^\circ$
 $= 180 - 148$

$\angle q = 32^\circ$

10. Consider:
 - All clarinet players are musicians
 - Fred is a clarinet player

What conclusion can be made? Can you prove it?

Fred is a musician

