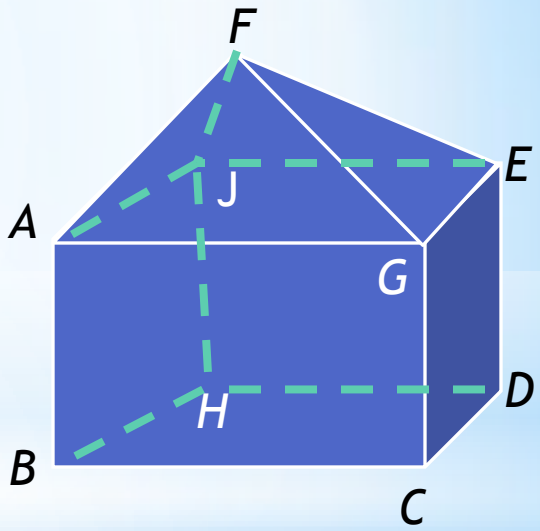
* Monday, August 27, 2012

TISK Problems

1. Name three planes in the figure.
2. Are *A*, *B*, *D* and *E* coplanar? Explain.
3. Factor completely: $x^3 + 2x^2 - 3x$



No Mental Math today.

HOMEWORK:
p. 96 Complete #13-23 mentally, complete #24-27 in writing

Homework Check

* 34a) Law of Detachment: (sample)
  * (2) I'm a careful bicycle rider.
  * (3) I wear a helmet.
* 34b) Law of Syllogism: (sample)
  * (2) If you wear a helmet, you will have fewer injuries.
  * (3) If you're a careful bicycle rider, then you will have fewer injuries.

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* 35a) Law of Detachment: (sample)
  * (2) I like pizza with everything.
  * (3) I'll like Jimmy's pizza
* 35b) Law of Syllogism: (sample)
  * (2) If you like Jimmy's pizza, then you are a pizza connoisseur.
  * (3) If you like pizza with everything, then you are a pizza connoisseur.

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* 36a) Law of Detachment: (sample)
  * (2) $\measuredangle A$ and $\measuredangle B$ form a linear pair.
  * (3) $\measuredangle A$ and $\measuredangle B$ share a common ray.
* 36b) Law of Syllogism: (sample)
  * (2) If two angles share a common ray, then they are adjacent.
  * (3) If two angles form a linear pair, then they are adjacent.

Quiz Time

- When finished with your quiz, place your papers in the following order (Top to Bottom):
  - The Quiz
  - 2-3 (today's)
  - 2-2 part 2 (#42-50)
  - 2-2 part 1 (#20-40)
  - 2-1
- If finished early, sit quietly until time is up.
- Make sure you are ready to take notes on the new lesson.

* §2.4 Using Proof in Algebra

Algebraic Properties to Know (Remember?)

Addition Property of Equality

If $a = b$, then $a + c = b + c$

Subtraction Property of Equality

If $a = b$, then $a - c = b - c$

Multiplication Property of Equality

If $a = b$, then $ac = bc$

Division Property of Equality

If $a = b$, then $a \div c = b \div c$

*Algebraic Properties to Know (continued)

Reflexive Property of Equality

For any real number a, $a = a$.

Symmetric Property of Equality

If $a = b$, then $b = a$.

Transitive Property of Equality

If $a = b$, and $b = c$, then $a = c$.

Substitution Property of Equality

If $a = b$, then a can be substituted for b in any equation or expression.

*How Geometry Proofs are Written.

*Solve: $5x - 18 = 3x + 2$ for x.

Statement	Reason
$5x - 18 = 3x + 2$	Given
$5x = 3x + 20$	Addition property of equality (+ prop of =)
$2x = 20$	Subtraction property of equality (- prop of =)
$x = 10$	Division property of equality (÷ prop of =)

*Example 2.

*Solve $3x + 12 = 8x - 18$
(and write a reason for each step)

Statement	Reason
$3x + 12 = 8x - 18$	Given
$3x + 30 = 8x$	Addition property of equality (+ prop of =)
$30 = 5x$	Subtraction property of equality (- prop of =)
$6 = x$	Division property of equality (÷ prop of =)
$x = 6$	Symmetric prop. of equality

* Your target heart rate, r, in beats per minute can be found from your age, a, using the equation:

$$a = 220 - \frac{10}{7}r$$

*Solve the formula for r and write a reason for each step.

Statement	Reason
$a = 220 - \frac{10}{7}r$	Given
$a - 220 = -\frac{10}{7}r$	Subtraction property of equality (- prop of =)
$-\frac{7}{10}(a - 220) = r$	Multiplication property of equality (× prop of =)

Check Point. The formula to convert Fahrenheit to Celsius is $C = \frac{5}{9}(F - 32)$.

- Solve the formula for *F* and write the reasons.
- Use the result to find the Fahrenheit temperature at 24°C.

Homework

p. 96
Complete #13-23 mentally, complete #24-27 in writing