MINUTES OF THE ___HOUSE___ COMMITTEE ON ___EDUCATION___.

The meeting was called to order by ___Representative Rick Bowden___ at

Chairperson

___3:30___ a.m./p.m. on ___February 25___, 19_91_ in room _519-S_ of the Capitol.

All members were present except:

Reps. Blumenthal, Benlon, Jones, Larkin, Reardon, Harder - All Excused

Committee staff present:
Avis Swartzman, Revisor of Statutes Office
Ben Barrett, Legislative Research
Dale Dennis, State Department of Education
Donna Luttjohann, Secretary to the Committee

Conferees appearing before the committee:
Dr. Lee Droegemueller, Commissioner of Education
John Poggio

The meeting was called to order by Chairman Bowden. The Chairman made note of several pieces of documentation distributed to the committee as follows: a letter to Rep. Hensley from Steven and Kelly Neske concerning SB 2090, the seat belt law, (Attachment 1); a letter from Don Hague, USD 412 concerning Warren Sager hearing Sept. 4, 1990 (Attachment 2); letter to Chairman Bowden from Pat Baker, KASB regarding HB 2085 (Attachment 3).

Three bill requests were introduced. The first Rep. Crumbaker introduced on behalf of Rep. Georgia Bradford, authorizing up to 1 mill levy for community education programs. A motion was made by Rep. Crumbaker to introduced this legislation. It was seconded by Rep. Empson. The motion carried. The second was introduced by Rep. Donna Whiteman pertaining to the breakfasts provided at schools. Rep. Hackler motioned that the committee allow this legislation to be introduced. It was seconded by Rep. Crumbaker. Motion carried. The third, introduced by Dr. Merle Hill, KS Community Colleges, would increase funds for remedial and developmental education. Rep. Reinhardt made a motion to allow this legislation to be introduced. It was seconded by Rep. Crumbaker. The motion carried.

Chairman Bowden then recognized Dr. Lee Droegemueller, Commissioner of Education. Dr. Droegemueller introduced John Poggio to brief the committee on the Kansas Math Improvement Program. (Attachment 4)

The meeting was adjourned at 4:37 p.m. with the next meeting scheduled for March 6th, 1991 in Rm. 519-S at 3:30 p.m.

GUEST REGISTER

HOUSE

EDUCATION COMMITTEE

NAME	ORGANIZATION	ADDRESS
Craig Grant	K-NEA	Topeka
Brilla Highline Scott	USA	Topeka
Clark Cink	KNEA	Topeka
Merle Hill	KACC	"
Robin Nichols	KSDE?	Wichita
Pat Baker	KXSB	Topeka
Melissa Miller	Page	Lenexa
Jessica Peck	Page	Overland Park
Bill Wagnon	Gov Legis Loser	Capitol
Jim Yonally	USD #512	Shawnee Mission

January 30, 1991

Rep. Anthony Hensley
2226 SE Virginia
Topeka, Kansas 66605

Dear Representative Hensley:

We are writing you today to share a concern we have had for quite some time and to encourage you, in your capacity as our elected representative, to try to do something about.
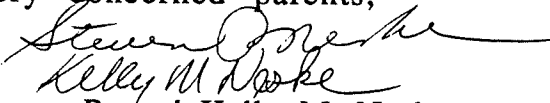
The fact that our precious children daily ride school buses that lack seat belts (the very belts you legally require in automobiles) is a constant concern of ours. At least ten times a week our childrens' lives are put in jeopardy in the name of saving money.

Understanding the chaos that erupts daily on a school bus brings to light a double safety benefit of seat belts. Beside the obvious collision safety factor is the fact that this huge number of children would be contained in their seats, unable to move about the bus. They would not be jumping up at each stop, pushing each other around, hanging over seat backs and out the windows. And, in a number of other ways, disrupting the drivers' attention. All of these infractions we have personally observed when my child is let off the bus.

Please take into consideration this oversight in our laws and buckle up our precious children.

We are also willing to testify in favor of such legislation at the appropriate committee meetings since we feel very strongly about this issue and its long range effects.

Very concerned parents,

Steven P. and Kelly M. Neske
3006 SE Pisces
Topeka, KS 66605

UNIFIED SCHOOL DISTRICT 412
HOXIE COMMUNITY SCHOOLS
HOXIE, KANSAS 67740

FRED IRWIN
Secondary Principal
Phone 913-675-3286
1625 Queen - Box 989

DON HAGUE
Superintendent
Phone 913-675-3258
724 Main Street - Box 348

CHARLES BUECHMAN
Elementary Principal
Phone 913-675-3254
1117 Royal - Box 969

February 22, 1991

To Whom It May Concern:

Re: Clarification of a situation dealing with a 2-1
hearing panel decision (Warren Sager, Sept. 4, 1990)

USD 412 received a written decision from the hearing panel
during the latter part of November, 1991. At that time, written
briefs from both parties were requested so that the USD 412 Board
of Education could review these during the month of December. The
Board's initial decision concerning the hearing panel's decision was
made on January 7, 1991. The USD 412 Board of Education decided to
uphold the minority opinion. Following the Board's decision, the
KNEA filed an appeal in the Sheridan County District Court. The
USD 412 Board of Education agreed by consenus to give the parties
involved until February 8, 1991 to reach a settlement out-of-court.
The Board had also agreed that if a settlement had not been reached
by February 11, 1991, it might be in the best interest of the Board
to reinstate Mr. Sager with full compensation.

On February 12, 1991 at 7:15 A.M., I, Don Hague, placed a
telephone call to Mr. Sager and explained to him that a tentative
Board of Education meeting was scheduled at 7:30 A.M. on February 15, 1991.
My recommendation to the Board was going to be that the Board pay him
back pay and reinstate him. I informed him that he would be expected
to report to work on Monday, February 18, at 7:45 A.M. On February 12,
1991, I also stated these same facts in a certified letter (see
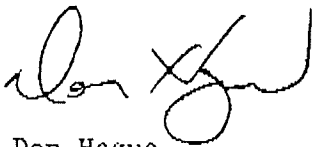attached copy).

On February 15, 1991, at 7:30 A.M., a special Board of Education
meeting was held. The attached resolution was enacted. After the
special meeting, Debbie Rookstool, Clerk of the Board of Education, was
instructed to write a check payable to Mr. Sager for all back pay through
the end of February, 1991. The Clerk was also instructed to hand
deliver the resolution to Mr. Sager in Hays, Kansas. At approximately
12:00 noon on February 15, 1991, the Clerk attempted to deliver the
resolution to Mr. Sager at his home in Hays, Kansas. Mr. Sager
refused to accept the delivered resolution and informed the Clerk that
"his people had told him not to accept it." The Clerk then returned

HOUSE EDUCATION
Attachment 2
February 25, 1991

to Hoxie and mailed the resolution to Mr. Sager by certified mail, which was again refused and returned unopened.

As of today, February 22, Mr. Sager has not reported to work at USD 412, nor telephoned to inform me, Don Hague, of his intentions.

Respectfully submitted,

Don Hague
Superintendent
USD 412
Hoxie, KS 67740

February 14, 1991

Representative Rick Bowden, Chairman
House Education Committee
Kansas House of Representatives
State House
Topeka, KS   66612

> Re: Policies on participation in
>   extra-curricular activities

Dear Rick:

In response to a request from committee members this week, we have done a _very_ rough estimate of districts using KASB policy services and who have adopted the model policy on activity participation. I want to stress that this information is _not_ complete for all districts but might give the Committee some idea of what is happening. I would note that this policy is _more_ rigorous than in the House Bill.

Please let me know if I can be of further assistance.

Sincerely yours,

Patricia E. Baker
Associate Executive Director/
General Counsel

PEB/ogl

cc: Rep. Bill Reardon
      Rep. Mike O'Neal

HOUSE EDUCATION
Attachment 3
February 25, 1991

ty. The written statement must be signed by one of the student's parents and must explain the reason(s) why the student should be exempt from participating in the activity.

Any high school student who participates in any extra-class activity that is adjudicated (athletics, music, speech, debate, drama, etc.), in any student government body such as a student council or in service as a class officer or president of a student organization or association must meet the following scholastic requirements:

A grade point average of 2.0 or better in all subjects during the grading period immediately preceding;

Current enrollment in at least five subjects of unit weight; and

A satisfactory citizenship record.

This rule also applies to the last grading period preceding high school.

Grade Point Average

The grade point average shall be computed by dividing the total grade points earned by the number of subjects taken.

Points shall be computed on the following basis: A = 4, B = 3, C = 2, D = 1, F = 0, Incomplete = 0. When an incomplete grade is changed, the grade point average shall be computed. "Incomplete" is not a passing grade.

Plus and minus marks shall be ignored in computing the grade point average.

Approved:

February 13, 1991

The following school districts were surveyed re: Policy IDA -
Grade Point Averages required for participation in extracurricular
activities:

K - adopted KASB suggestion   O - no policy

USD 210 - Hugoton - K

USD 341 - Oskaloosa - K

USD 231 - Gardner - K

USD 418 - McPherson - K

USD 290 - El Dorado - K

USD 430 - Horton - K

USD 406 - Wathena - K

USD 323 - Westmoreland - K

USD 353 - Wellington - K

USD 309 - Nickerson - K

USD 457 - Garden City - K

USD 436 - Caney - K

USD 404 - Riverton - K

USD 378 - Riley County - K

USD 443 - Dodge City - K

USD 508 - Baxter Springs - K

USD 377 - Effingham - K

USD 480 - Liberal - K

USD 361 - Anthony-Harper - K

USD 238 - West Smith County - K

USD 208 - WaKeeney - K

USD 465 - Winfield - K

USD 445 - Coffeyville - K

USD 242 - Weskan - K

USD 252 - South Lyon County - K

USD 452 - Stanton County - K

USD 511 - Attica - K

USD 300 - Coldwater - K

USD 404 - Riverton - K

USD 356 - Conway Springs - K

USD 227 - Jetmore - K

USD 446 - Independence - K

USD 383 - Manhattan - K

USD 403 - Otis-Bison - K

USD 304 - Bazine - K

USD 331 - Kingman - K

USD 385 - Andover - K

USD 103 - Cheylin - K

USD 341 - Oskaloosa - K

USD 310 - Fairfield - K

USD 293 - Quinter - K

USD 431 - Hoisington - K

USD 203 - Piper - K

USD 292 - Grainfield - K

USD 305 - Saline - K

USD 311 - Pretty Prairie - K

USD 336 - Holton - K

USD 363 - Holcomb - K

USD 367 - Osawatomie - K

USD 375 - Circle - K

USD 394 - Rose Hill - K

USD 450 - Shawnee Heights - K

USD 464 - Tonganoxie - K

USD 476 - Copeland - K

USD 483 - Kismet-Plains - K

USD 490 - ElDorado - K

USD 387 - Altoona Midway - O

USD 347 - Kinsley-Offerle - O

USD 320 - Wamego - O

USD 447 - Cherryvale - O

USD 343 - Perry - Student Handbook is referenced

USD 427 - Belleville - Student Handbook is referenced

USD 260 - Derby - Student Handbook is referenced

USD 306 - SE of Saline - KSHSAA Policy is followed

USD 200 - Greeley County - KSHSAA; Requires C average, no more
than 1 F; goes by 4-week periods.

USD 352 - Goodland - K & + and - marks are used to figure grades

USD 241 - Sharon Springs - 1.5 required GPA instead of 2.0 & K

USD 384 - Blue Valley-Randolph (No Fs & no more than 2 Ds - week-
by-week checking of grades).

USD 470 - Arkansas City - Weekly warnings if failing; coaches and
sponsors are to counsel students to do
better.
 - - - -

Total in Sample	69
No. Using KASB Suggested Language	57
Percent of Total Using KASB Suggested Language	82.6

 - - - - -

KASB suggested policy:

Any high school student who participates in any extra-class activity that is adjudicated (athletics, music, speech, debate, drama, etc.), in any student government body such as a student council or in service as a class officer or president of a student organization or association must meet the following scholastic requirements:

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Plus and minus marks shall be ignored in computing the grade point average.

- - - -

Notes:

1) It is not possible to confirm that all districts are currently enforcing this policy.

2) It is possible that some districts have changed their requirements and have not updated the policy book KASB keeps for them.

3) It is not possible to know what standards may be referenced in the student handbooks without calling the districts.

The Design for the Spring, 1991 Assessment
in the
Kansas Mathematics Improvement Program

JOHN P. POGGIO
CENTER FOR EDUCATIONAL TESTING AND EVALUATION
SCHOOL OF EDUCATION
UNIVERSITY OF KANSAS

During the 1989-90 school year the <u>Standards for Mathematics Instruction</u> for the State of Kansas were developed. The <u>Standards</u> emerged as the work product of numerous skilled and dedicated Kansas mathematics educators representing all levels of instruction from across the state. These <u>Standards</u> reflect the energy and best thinking for the structure and direction of mathematics instruction that is destined to alter not only what is taught in Kansas schools, but how it is taught. The Kansas <u>Standards</u> embody in both spirit and intention the principles and direction called for in the NCTM <u>Standards</u>. The state's <u>Standards</u> will provide the focus for the Kansas Mathematics Improvement Program whose major components include: staff development, curriculum planning and revision, instructional systems design, establishing student improvement plans, and formal state assessment.

In concert with these dramatic changes for mathematics teaching and learning, while the fundamental roles for assessment will not be altered (that of providing information to assist decision making and aid understanding regarding the accomplishments of students and programs), how assessment is carried out will change. The three part collaborative metamorphosis of curriculum structure, instructional design and assessment that blend to define teaching and learning requires the continuing attention and nurturing by concerned Kansas educators. To this end as curriculum planning and instructional systems continue to develop and evolve, the focus for assessment must remain responsive to these directions and must avoid getting too far in front of the other components that the direction of assessment inadvertently or unexpectedly defines the course for curriculum and instruction. Appraisal is a tool and a vehicle, not an end unto itself.

From this perspective, given the broad array of outcomes intended from the Kansas Mathematics Standards and the distillation and refinement processes that will be ongoing over the period of the next years toward finalization of goals and outcomes, it has been decided that a universal assessment be carried out during the 1990-91 school year, the first full cycle for testing under the mandate. By universal assessment is meant: (1) gathering information utilizing the range of methodologies that are likely to be relied on in future evaluations; (2) the monitoring of the broadest range of likely expected outcomes; and, (3) the use of those conditions for testing that in all probability will be incorporated in future appraisal systems. At this stage, a universal assessment will have the advantage of providing for a monitoring of the overall status of mathematics achievement in Kansas, but will (probably) suffer from not being able to provide common prescriptive or diagnostic feedback for the students tested. The reasons for this situation are presented below. To achieve the universal assessment, the following elements and conditions merit consideration as well as understanding.

Test Plan

A multiple matrix sampling test design will be used. Under this approach the universe of items representing the Standards for a grade level are assembled and then multiple forms of (different) tests are constructed from the pool of available items. It is unlikely that the different test forms will be assembled to be equivalent, that is, parallel. Test forms are then assigned at random to location for administration. Thus, different students will take different examinations thereby prohibiting common feedback that is typical when a fixed (that is, one) test is employed. When appropriate, a few select items may appear on different grade level forms; common items (referred to as anchor items) across forms at a grade level that can be used to equate tests will be included if practical. Under any test configuration scheme, information will be obtain that will permit the appropriate aggregation and analyses of the test data by such school factors as building and district, and student demographics as ethnicity, sex and mobility.

2

Tested Population

All regular education Kansas students attending accreditated public or private schools at grades three, seven and ten will be administered an appropriate Mathematics test form. For this pilot year, special education students will be tested when it is the decision of the local district to test a given student. Testing for all is scheduled to be completed within a two week period during last week of March through the first week of April,1991.

Test Item Development

Test questions are being constructed under the direct supervision of the Center for Educational Testing and Evaluation at the University of Kansas, and with the advice, consent and support of the Kansas State Department of Education with final approval residing with the Kansas State Board of Education. Relying solely on the Kansas <u>Standards for Mathematics Instruction</u> for direction, test items are being constructed by contracting independently with Kansas K through 12 mathematics educators. Development follows state of the art item construction practices cycling through repeated trials of development, review and editing. To the extent feasible and suitable, test questions available from other vendors or locales may be used.

Test Format

Traditional and non traditional objective item formats will be used. Non traditional objective formats expected to be employed included true-false formats and multiple correct response items. Highly speeded sections will be included to allow a suitable appraisal of skills when limited time for completion is desirable. In addition, those test item formats that depend on qualitative response by students for assessment will appear on certain forms. This latter type assessment structure has been historically termed open ended response formats, subjective or supply items, but more recently is being termed performance or authentic assessment. The focus for these items under the current Kansas plan for testing will be to monitor students' process of mathematics reasoning in working toward solutions. As such, partial credit or scale scoring of responses will occur. Use of calculators will be expected on designated sections

of the tests at each tested grade level. Other manipulatives (for example, rulers and symbols for arrays, etc.) will also be used for taking the test.

Test Content

Knowledges and skills to be evaluated are those embodied and defined by the Kansas <u>Standards for Mathematics Instruction</u>. The focus for assessment will center on skills and achievements in domains as computation, problem solving in routine and non-routine contexts, quantitative reasoning, thinking, and estimation. Central to the focus of the areas for testing is monitoring the students level of mathematics conceptualization and integration of outcomes across the <u>Standards</u>. In keeping with the philosophy of the <u>Standards</u>, evaluation of specific or isolated knowledges and skills will be intentionally kept to a minimum.

Test Scoring and Reporting

Processing of information will be accomplished using machine scorable response sheets and by educators grading the suitability of student responses to open-ended formated items. In the latter case, a variety of approaches will be field tested to determine feasibility and utility, including intra- as well as inter-district cooperative scoring and evaluation.

Results from testing will be reported at the State and local district levels. Performance summaries by item, skill and domain will be available. Individual student diagnostic reports or pass/fail designations will not be provided as the universal design for the test plan does not fit such reporting requirements. Test result information may not be comparable across districts potentially making district comparisons inappropriate. The viability of district comparison will be studied.

4

MATHEMATICS STRANDS TO GUIDE OUTCOMES BASED EVALUATION

When preparing the assessment tools to reflect the Kansas Standards for Mathematics Instruction an analysis was undertaken to determine the major strands or, psychometrically, those dimensions embodied in the Standards. In defining these primary foci, attention to current thinking as discussed in the professional literature was given consideration as well. It is safe to conclude that thinking regarding mathematics curriculum and instructional design is in a period of transition, if not at least, re-evaluation.

Cognizant of the need for flexibility given today's propensity toward change, we offer legitimately two perspectives that address expected outcomes as embraced by the Kansas Mathematics Improvement Project and reflect those components most in transition. From either view, these major strands will provide an opportunity for schools to elect an orientation that truly supports their educational philosophy and reflects their practice.

As currently being discussed in the professional literature and societies, schools might elect to view outcomes in mathematics from a perspective defined by content domains, or if preferred, from the perspective of cognitive processing. We leave it to the interested reader to attach specific definitions or exact structure to such construct components. Our detailing is provided only as an illustration to help draw the types of distinctions being called for in the field. No superiority is inferred or implied in this choice. Primary domains when seen from the perspective of likely content areas include, but are not limited to, the following.

Content Areas

Number Operations
Measurement
Data Organization and Graphing
Geometry
Algebra
Probability and Statistics
Number Sense and Theory, Logic, Functions and Patterns

The foregoing are traditional areas of curricular or subject matter focus. Beyond agreement on the content structure, it is expected that the local district would produce a blueprint that would detail the emphasis (as a percent for each dimension at each grade level) to be afforded each content dimension.

Principle dimensions associated with outcomes focused on cognitive processing might include, but not be limited to, the following.

Cognitive Functioning

Knowledge Base Mastery (including computation, skill, estimation, language and calculator usage)
Problem Solving
Communication
Reasoning
Mathematical Concepts
Mathematical Procedures

Again, as when content areas defined the focus for targeting goals, a local district would find it necessary to detail the amount of emphasis (expressed as a percentage for each grade level) to be assigned to each theme, that is cognitive component. In this way the opportunity for local structure of the curricular emphasis based on a model of cognition or information processing is attained.

While the two strands are presented as separate listings, it is within reason (although not necessary) to envision a blending, borrowing or integration across the lists. For example, from a very traditional perspective one could stipulate a content by behavior matrix and focus on the intersection of the elements (e.g., How are we doing in the area defined by the intersection of problem solving and algebra, etc.). Or it is conceivable to carry specifications of the Knowledge Base into the content area strand in order to achieve a more comprehensive collection of curricular outcomes. In short, the mixture of these strands can be arranged to meet the conditions, expectations, and desires of the local school district. In this way local control is preserved.

6

ı. Test Administration Introduction and Instructions

AN OVERVIEW: THE KANSAS MATHEMATICS PILOT ASSESSMENT

Your students will be participating in the Kansas Mathematics Pilot Assessment, a program of the Kansas State Board of Education. Students in grades 3, 7 and 10 are being tested. Students in exceptional categories, i.e. those students with IEP's, are to be tested when in the judgment of the district the individual student can benefit from the assessment. The guidelines for testing students in these categories are included in this manual and are discussed in the section titled, "Procedures for Testing Exceptional Students." Special provisions are needed for testing an exceptional student. If you are responsible for test administration for such an individual, arrangements should be made in advance. If you are uncertain about the test administration policy for any student for whom you are responsible, check with your building principal or district test coordinator.

Multiple forms of each grade level examination have been prepared, although each test booklet contains a single mathematics test. The Test Booklet Information table presented later identifies by grade level (referred to as "TEST LEVEL") the number of tests that have been prepared and the format (objective/multiple-choice or open-ended/completion) of each test form. There are seven Grade 3 forms, seven Grade 7 forms, and six Grade 10 test forms. The use of multiple forms became necessary when the State Board of Education decided to monitor the entire array of knowledges, skills and abilities included in the Kansas Mathematics Curriculum Standards (1990). The assessment of the entire domain of expected achievements is one of the reasons this year's testing is considered a pilot assessment.

Each test form at every grade level consists of two distinct parts: (1) a timed Estimation section that starts the testing session for the first five minutes, and is immediately followed by (2) an untimed, power test that assesses a broad array of information. Use of a calculator **on the second portion** of the test is permitted and encouraged. Students in grades 3, 7 and 10 taking an objective, i.e., multiple-choice, form of the test read the questions in the booklet and record their answers on a separate answer sheet. Students taking an open-ended, i.e., completion format test form, respond to test questions on their test booklet pages. **Local district instructors will grade these students' responses after testing** and record their professional evaluation on an answer sheet for the student. Instructions to be followed for scoring the open-ended tests are provided in Section IV of this manual. Marking and writing by the students are permitted in all test booklets.

Preparing for Testing: Students and Examiners

To insure accurate results, it is important that testing sessions be conducted in a manner that encourages students to do their best. Make it clear to students that the activity is to be taken seriously. Over the years, observations indicate that an examiner's remarks, demeanor, tone and disposition do affect the testing climate and student motivation. If an examiner conveys an attitude that the examination is of no consequence, or is of little merit or importance, or is a senseless imposition, students will not put forth their best effort. As such, examiners are asked to take on the task of administration with a serious purpose and to work in advance to motivate students to do their best. To insure accurate results, it is important that testing sessions be conducted in a manner that encourages and motivates students. Again, in planning for and leading up to testing, make it clear that the activity is to be taken seriously.

Examiners must not go to the extreme of making the testing situation threatening or anxiety-provoking. However, this year the pilot tests span a range of material at each grade level. Some of the information being tested will not be readily familiar to students. How it is tested may seem different from other examinations. And in some cases, the content tested will not have been taught to students. Therefore, it will be important to be alert and sensitive to the experience this testing situation presents your students. Encourage students to do their best; acknowledge that the test may be difficult but challenging; and alert students that the test will be different, but interesting. Your support and encouragement of their efforts

.s essential. Your cooperation will contribute to their performance.

Following testing, it is recommended that you conduct a "debriefing session" with students to discuss these particular tests, their differences and the challenges they presented. The time should be used to offset any uneasiness students experience as a result of not knowing how to take these tests, or not knowing the content because it had not been taught, or not knowing for sure what was being expected of them. We should not allow an unfamiliar, and potentially threatening encounter to go unattended. Some sensitivity in this regard may be needed.

Special Features of the 1991 Kansas Mathematics Assessment

The 1991 Kansas Mathematics Pilot Assessment represents a significant initiative. Under the leadership of the Kansas State Board of Education and with the continuing support and vigilance of the Kansas Commissioner of Education and the State Department of Education, this pilot assessment program has taken shape and direction. The knowledges, skills and abilities being evaluated derive from the 1990 Kansas Mathematics Curriculum Standards, which are themselves a reflection of the 1989 National Council of Teachers of Mathematics Standards for School Mathematics. If you are not familiar with the Kansas Standards, you need to contact your principal or the Kansas State Department of Education for a copy.

The framework and substance for the assessment have been developed with the input and contribution of numerous Kansas educators at all levels. The current tests are vastly different from traditional testing devices. They distinguish themselves in attempting to maximize their fit with the mission and intent of the Kansas Standards. To this end assessment has been designed to meet the purpose and challenge of the Kansas Mathematics Curriculum Standards. To achieve these goals, it has been found necessary and essential to incorporate the following features into the 1991 assessment devices.

- allowance for student use of calculators during testing
- heavy reliance on test questions that focus on process, quantitative reasoning, thinking skills and communication
- inclusion of an estimation section in each test that places a premium on speedy mental calculations and quantitative awareness to approximate answers
- providing manipulatives for student use during testing
- allowing for formulas to be used by students
- use of extended and short-answer open-ended test questions
- inclusion of multiple correct response items in the multiple-choice testing
- broadening the content focus at all grades to encompass the areas of statistics and probability, geometry and number sense and theory.

This year is a beginning. We welcome your observations, comments, reactions and suggestions.

Preparing for Test Administration

In addition to this Examiner's Manual, you should have received enough test booklets and answer sheets for the number of students to be tested in your room, plus a set for your use. Check to be sure that the test booklets you have received are at the **appropriate grade level** for the students being tested. Refer to the Test Booklet Information table below to verify that you have the proper booklets for your students. As an aid, note that the TEST LEVEL identification on the cover of each test booklet equates as follows.

Test Level		Grade
ES	=	Elementary School-Grade 3, seven test forms
MJ	=	Middle/Junior High School-Grade 7, seven test forms
SH	=	Senior High School-Grade 10, six test forms

Test Booklet Information

Grade 3 Tests	Grade 7 Tests	Grade 10 Tests
TEST LEVEL = ES	TEST LEVEL = MJ	TEST LEVEL = SH
Test: FORM CODE	Test: FORM CODE	Test: FORM CODE
B 1	C 8	D............15
E 2	F.............9	G 16
H 3	J.............10	K............17
L............4	M............11	N............18
P 5	R 12	** S............19 **
** T............6 **	** U ....13 **	** W......... 20 **
** X ....7 **	** Y ....14 **	

These examinations are <u>Open-Ended</u> tests. Students respond in the test booklet. All other test forms are objective, multiple-choice formatted examinations.

The test booklets have been sent to you in serial order. That is, test forms are cycled, and the sequence repeated up to the approximate number of students you will test. You are to pass out booklets to students in the pre-arranged order to insure random distribution of test booklets. Make no attempt to provide a particular test form to a specific student. Distribute booklets at random.

There is only one type of answer sheet. This common answer sheet is green and titled **Kansas Mathematics Assessment**. It is to be used by <u>all</u> students regardless of the grade level or type of test being taken. Those students taking an open-ended form of the test will need to complete the identifying information (i.e., name, school, race, etc.) on the answer sheet. All students will mark their answer sheets to identify the specific test form they are taking. This information is given at the bottom of each test booklet cover and is identified as TEST LEVEL, TEST FORM and TEST CODE. Students MUST correctly mark this information in the appropriate area on the answer sheet. Students with open-ended test forms will then set their answer sheet aside and not use it during the actual test. Their responses are to be scored and recorded on their answer sheets at a later time. The guidelines and criteria for scoring open-ended responses are provided as the last section of this manual.

You will need to know your school district number (U.S.D. No.) **and** the School Code number assigned to your building. **This information should have been written on the front cover of this manual.** Private schools have been assigned a special school district number. Check to see that it is there. If it is not there, immediately contact your building principal for this information.

Before administering the test, familiarize yourself with the directions in this Examiner's Manual, the tests you will be administering, and the answer sheet that will be used by your students. As you read through the manual, make any notes necessary in the margins to assist your administration of the tests.

♦ 9

Please photocopy and distribute to teachers, administrators and other interested individuals.


The following **sample items** were developed by the Center for Educational Testing and Evaluation at Kansas University or taken from the **Curriculum and Evaluation Standards for School Mathematics**, published by the National Council of Teachers of Mathematics (used by permission). All regular third, **seventh**, and **tenth** grade students are required to participate in the assessment. The Kansas Mathematics Standards should be used to determine which items are appropriate to the corresponding grade levels as items are NOT broken down by age level. Please regard these items as **guidelines** to the types of questions which **could** occur on the upcoming Kansas Mathematics Pilot Assessment. Note that items could have more than one correct answer, could ask only for the procedure to be used, may ask students to justify their answer, and probability is included at all age levels. The assessment is designed to incorporate all areas of the Kansas Mathematics Standards as well as basic computational facts.

Other information concerning the Kansas Mathematics Assessment can be found in the **January** issue of the Kansas Mathematics Improvement Program Newsletter mailed to superintendents and principals January 17. If you have questions, call the KSBE Mathematics Specialist, Kim Gattis, at (913) 296-3851.

1. Consider the following numbers. List all of the patterns you can find.

    9
    18
    27
    36
    45
    54
    63
    72
    81

2. Jack follows a pattern when he decorates cookies. Following his pattern what is the next cookie he might decorate? Mark all that apply. Give your reason(s).


a.

d.

b.

e.

c.
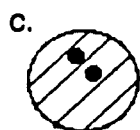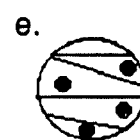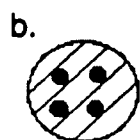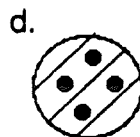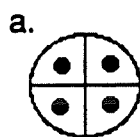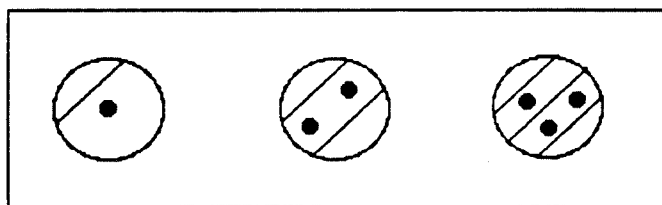
3. If you wanted to know how many hairs were on your head, what steps would you take to find out?

4. Jason said to his mother they always seemed to have the same dinner. His mother said, "That's not true. Just using four meats and four vegetables, I can make different meals each night for at least two weeks." Using the following list of four meats and four vegetables, decide if Jason's mother is correct.

Meats	Vegetables
Chicken	Carrots
Beef	Beans
Fish	Corn
Turkey	Peas

* * * * * * * * * * * * *

Scientists have discovered that crickets can act as "thermometers". By counting the number of chirps in one minute you can estimate the temperature. The following table shows the relationship between number of chirps and temperature.

Chirps a Minute	Estimated Temperature
96	64°
144	76°
160	80°
176	84°
224	96°

5. Describe what you see as the relationship between the number of chirps and the temperature.

6. Leo is 4 times as old as Don. The difference between their ages is 8 years less than the sum of their ages. How old is Don?

* * * * * * * * * * * *
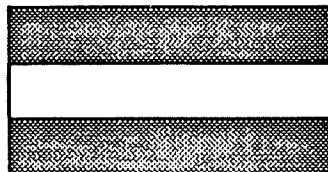
7. How much of this figure is shaded?

    a. 3/4   b. 2/3   c. 1/2   d. 1/3

11

8. Jan built a bookcase with 7 shelves. Each shelf holds 37 books. How many books can fit in the bookcase?

      a. 269   b. 259   c. 219   d. 79

9. Which of the following number sentences is true?

      a. $5 \times 4 = 4 \times 5$ b. $5 \times 4 = 4 + 5$ c. $5 + 4 = 4 \times 5$ d. $5 + 4 = 4 + 5$

10. Which of the following is the best estimate for your teacher's height?

      a. 5 m   b. 1 km   c. 1.5 m   d. 20 cm   e. 5000 mm

11. Beth brings an apple for lunch 1 out of every 5 days each school week. How many days will she probably bring an apple for lunch in April?

      a. 1 day   b. 4 days   c. 6 days   d. 7 days

* * * * * * * * * * * * *

ANIMAL WEIGHTS
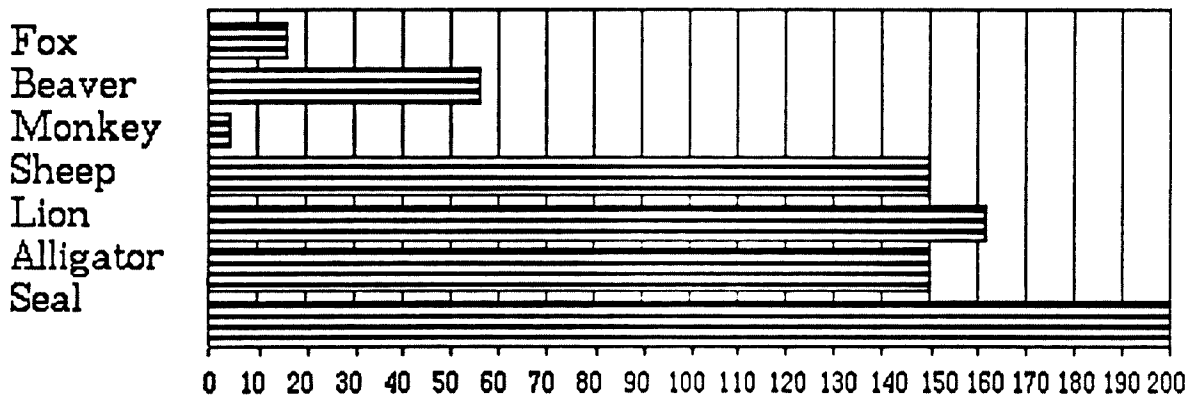
12. Which animal is heavier than a lion?

      a. Fox   b. Seal   c. Alligator   d. Sheep

13. The animals that weigh less than 100 pounds are

      a. alligator, sheep, lion   c. fox, beaver, monkey
      b. monkey, sheep, lion   d. fox, lion, seal

14. The number 17 is between which of the following pairs of numbers?

      a. 4 and 5   b. 8 and 9   c. 16 and 18   d. 288 and 290   e. I don't know

15. Jason said to his mother they always seemed to have the same dinner. His mother said, "That's not true. Just using four meats and four vegetables, I can make different meals each night for at least two weeks."

Meats	Vegetables
Chicken	Carrots
Beef	Beans
Fish	Corn
Turkey	Peas

How many different meals can she prepare if she always uses one meat and one vegetable?
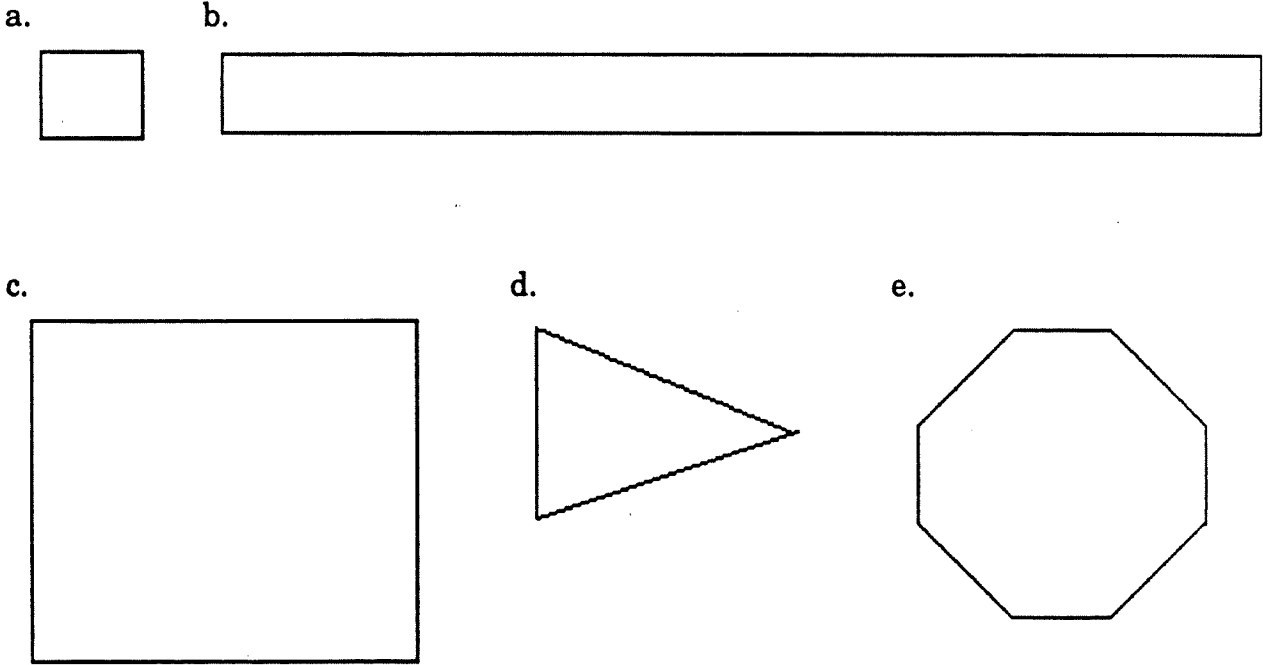
  a. 16   b. 8   c. 14   d. 20

16. Add: 526
       80
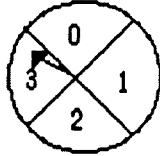   + 643

  a. 1510 b. 1249 c. 1229 d. 1149

17. Which figure has the largest perimeter?

a.   b.

c.   d.   e.
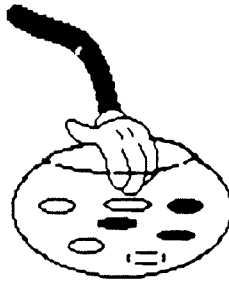
18. Which probability is not matched with its picture?
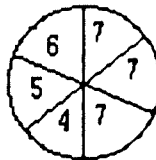
a. The probability of the spinner landing on 3 is 1/4.
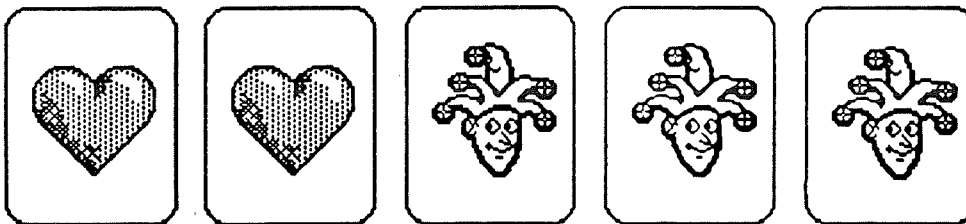

b. The probability of picking a black disc is 3/4.

c. The probability of the spinner landing on 7 is 1/2.

d. The probability of picking a heart is 2/5.

* * * * * * * * * * * *
Pears cost more than apples. Apples cost four times more than plums. Plums cost one-half as much as oranges.

19. Which fruit costs the least?

        a. Pears   b. Apples   c. Plums   d. Oranges

20. Which fruit costs the most?

        a. Pears   b. Apples   c. Plums   d. Oranges

* * * * * * * * * * * *

10 Marbles   100 Marbles   1000 Marbles

21. There is only one red marble in each of the bags shown below. Without looking, you are to pick a marble out of one of the bags. Which bag would give you the greatest chance of picking the red marble?

    a. Bag with 10 marbles   d. It makes no difference
    b. Bag with 100 marbles   e. I don't know
    c. Bag with 1000 marbles

22. John's teacher asked him to explain the number of decimal places in the answer for .63 x .37. Which is correct?

    a. hundredths times hundredths equals ten thousandths
    b. tenths times tenths equals hundredths
    c. tenths times hundredths equals thousandths
    d. hundreds times hundreds equals hundredths

Scientists have discovered that crickets can act as "thermometers". By counting the number of chirps in one minute you can estimate the temperature. The following table shows the relationship between number of chirps and temperature.

Chirps a Minute	Estimated Temperature
96	64°
144	76°
160	80°
176	84°
224	96°

23. Based on the table above which of the following is true?

   a. The rate of change is about 4 chirps for each degree.
   b. As the temperature rises the number of chirps per minute increases.
   c. Cricket's chirps cause the temperature to rise.
   d. The temperature equals one-half the number of chirps.

24. At 100 degrees about how many times is a cricket expected to chirp?

   a. 240   b. 230   c. 236   d. 288   e. 200

   ✱ ✱ ✱ ✱ ✱ ✱ ✱ ✱ ✱ ✱ ✱ ✱

Mrs. Jones' third grade class was to make a number line from 0 to 1000. Students were divided into 10 groups and given the names Group One, Group Two, ..., Group 10. The parts of the number line each group was to make is given as follows.

Group One	Group Two	Group Three...	Group Ten
0, 1, ... 9	10, 11,........,19		90, 91,........99
100, 101,....,109	110, 111,...,119		190, 191,...199
200, 201,....,209	210, 211,...,219		290, 291,...299
300, 301,....,309	310, 311,...,319		

| . | . | . | . | . | . | . | . | . |

900, 901,....,909

Use this information to answer the questions below.

25. Which group is making the part of the number line with the numbers 70 through 79?

   a. Group Six   b. Group Seven   c. Group Eight   d. Group Nine   e. Group Ten

26. Which group is making the part of the number line with the number 842?

a. Group Two   b. Group Four   c. Group Five   d. Group Eight   e. Group Nine

27. Which of the following would be a number made by Group 4?

a. 304   b. 736   c. 164   d. 540   e. 487

28. Which group is making the part of the number line that has numbers with only a four in the tens place?

a. Group Five
b. Group Four
c. Group One

d. All groups
e. None of the Groups

29. Subtract and Simplify:

3 1/3 - 2 3/4 =

a. 2   b. 1 2/7   c. 1 1/6   d. 7/12

30. Which shows the correct decimal placement in the answer to the problem: 1.6 ÷ 25?

a. .0064   b. .064   c. .64   d. 6.4

31. Willis and Lincoln used 6 ounces of candy and 4 ounces of peanuts to make a party treat. What fraction of the total amount of party treat was made of peanuts?

a. 3/2   b. 2/3   c. 3/5   d. 2/5

32. A standard cassette tape player runs the tape over its heads at a speed of 1 7/8 inches per second. If the tape were unwound it would be approximately the length of which of the following? REMEMBER - a 60 minute cassette means recording up to 30 minutes on each side.

a. a telephone pole
b. a basketball court

c. a football field
d. the distance you could walk in 5 minutes at a fast pace

33. Leo is 4 times as old as Don. The difference between their ages is 8 years less than the sum of their ages. How old is Don?

a. 12   b. 8   c. 4   d. 6

17

(A multiple correct response item)

34. Jamal wanted to buy a video disk that was priced at $10. The sales tax on any purchase was 4 percent. Which questions below could be answered given only this information? You do not need to compute the answer to any of the questions. Just select any question(s) that could be answered from the information.

    a. What is the amount of change Jamal received if he gave the clerk a ten dollar bill and a five dollar bill?

    b. What is the total cost for his purchase?

    c. If he received 16 cents in change after paying for the purchase, how much money did he give the clerk?

    d. How much did the store pay for the video disk?

    e. How much change did Jamal receive from the clerk after purchasing the video disk?

    f. How much change would Jamal need to pay the sales tax?

    g. What proportion of the price of the video disk was to be paid as sales tax?

   h. What proportion of the total cost was paid as sales tax?

(A multiple correct response item)

35. You have to outline a store window with a 24 foot string of lights. Which of the following windows would the light string fit exactly?

a. [rectangle 6 by 4]   b. [rectangle 4 by 3]   c. [rectangle 8 by 4]   d. [rectangle 9 by 3]
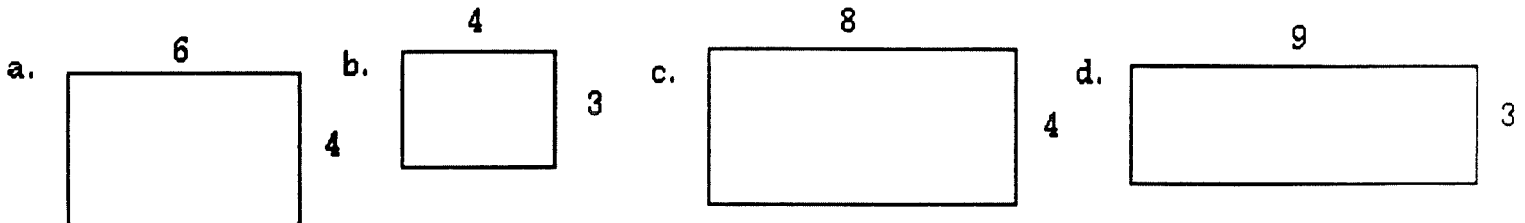
36. Which of the following is a true step in solving $3x - 4 = 11$?

    a) $3x - 4 = 11 - 4$ d) $3x - 4 + 4 = 11 + 4$
    b) $3x - 4 + 3 = 11 + 3$ e) $3x - 4 = 11 + 3$
    c) $3x - 4 + 4 = 11 + 3$

* * * * * * * * * * * * *
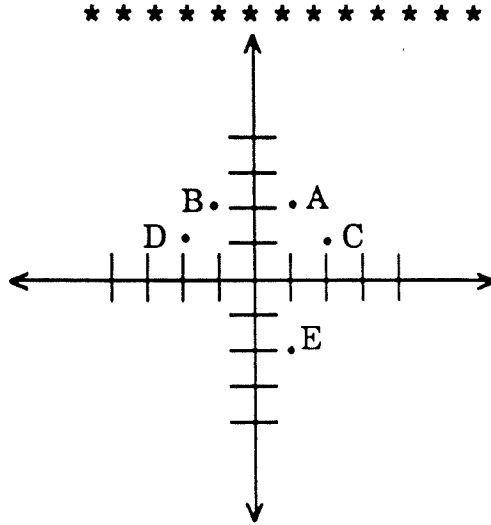
37. In the graph at the above, which point has coordinates (2,1)?

    a) A   b) B   c) C   d) D   e) E

* * * * * * * * * * * * *

A manufacturer of dog food wishes to design a new can for its dog food and can't decide on a shape, except she knows that she wants it to be "can-shaped" (right circular cylinder) and no longer in diameter than 20 cm. The company wishes the volume of the can, no matter what its shape, to be fixed at 500 ml. One of the summer high school interns set up a computer spreadsheet to show various combinations of radius, height, and surface for a fixed volume of 500 ml, which is shown below.

Radius in cm	Height in cm	Volume in cm^3	Surface in cm^2
1	159.16	500	1003.14
1.5	70.74	500	673.74
2	39.79	500	512.57
2.5	25.46	500	419.63
3	17.68	500	361.61
3.5	12.99	500	324.20
4	9.95	500	300.27
4.5	7.86	500	285.84
5	6.37	500	278.54
5.5	5.26	500	276.85
6	4.42	500	279.76
6.5	3.77	500	286.58
7	3.25	500	296.80
7.5	2.83	500	310.05
8	2.49	500	326.06
8.5	2.20	500	344.63
9	1.96	500	365.58
9.5	1.76	500	388.79
10	1.59	500	414.16

38. If the cost of the aluminum to build the can is an issue, between what two radii would the can shape require the least amount of material?

    a. Between 9 cm and 10 cm
    b. Between 5 cm and 6 cm
    c. It doesn't matter; the volume is always 500 ml
    d. Not enough information

39. After considering all factors, the company decided on a conventional shape for the can, choosing a height of 10 cm. What was the approximate radius of the can chosen?

    a. Approximately 1.6 cm   c. Approximately 4 cm
    b. Approximately 300 cm   d. Not enough information

40. Which statement correctly compares the amount of material required to make the can with a radius of 4 cm as compared to the amount of material required to make the can with a radius of 5.5 cm?

    a. There is no difference in the amount of material required
    b. 8-10% more material is required for the 4 cm can
    c. Almost twice as much material is required for the 4 cm can
    d. Not enough information

                      ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★

Mrs. Jones math class was discussing bank accounts and the difference that compounding interest can make. As a class project, it was decided that the students would investigate what interest would be earned if $1000 were put in a savings account for ten years at an annual interest rate of 8%, with different compounding periods. The interest earned at the end of each compounding period was to be added to the principal throughout the ten years. When the students visited a savings & loan institution, their host set up the following spreadsheet to allow them to draw their own conclusions.

Compounding Periods Per Year

Year	Yearly 1	Monthly 4	Quarterly 12	Weekly 52	Daily 365
1	$1,080.00	$1,082.43	$1,083.00	$1,083.22	$1,083.28
2	$1,166.40	$1,171.66	$1.172.89	$1.173.37	$1.173.49
3	$1,259.71	$1,268.24	$1,270.24	$1,271.01	$1,271.22
4	$1,360.49	$1,372.79	$1,375.67	$1,376.79	$1,377.08
5	$1,469.33	$1,485.95	$1,489.85	$1,491.37	$1,491.76
6	$1,586.87	$1,608.44	$1,613.50	$1,615.48	$1,615.99
7	$1,713.82	$1,741.02	$1,747.42	$1,749.92	$1,750.57
8	$1,850.93	$1,884.54	$1,892.46	$1,895.55	$1,896.35
9	$1,999.00	$2,039.89	$2,049.53	$2,053.30	$2,054.27
10	$2,158.92	$2,208.04	$2,219.64	$2,224.17	$2,225.35

4-20

Based on this spreadsheet data, answer the following questions.

41. At the end of the ten-year period, how much more interest is earned by compounding quarterly (four times a year) as compared with compounding annually (one time a year)?

    a. 2.43   b. 49.12   c. 1078.92   d. 1145.35   e. Not given

42. Would it be worth the trouble to find a savings institution which would compound interest daily if you already have $1000 on deposit at a place that compounded interest weekly? (Explain your answer)

43. Given the following statements:

    I.   Compounding one time a year gives the most return
    II. There does not appear to be much difference in interest earned between compounding weekly and daily
    III. In ten years, money invested at 8% interest will more than double
    IV. The interest earned over the ten-year period varied between $158.92 and $225.35

    Which of the above statements are true?

    a. All of the statements are true.
    b. Statements II, III, and IV are true.
    c. Statements II and III are true.
    d. None of the statements are true.
                * * * * * * * * * * * * *
44. If the fractions represented by points C and D on this number line are multiplied, what point will best represent the product?
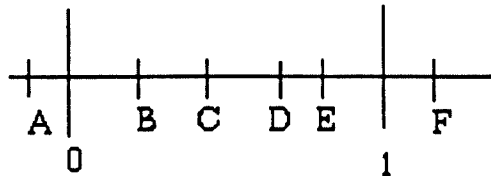
45. You have 10 items to purchase at a grocery store. Six people are waiting in the express lane (10 items or fewer). Lane 1 has one person waiting, and lane 3 has two people waiting. The other lanes are closed. What check-out line should you join?

    What additional information do you need to answer this question?

46. Imagine you are talking to a student in your class on the telephone and want the student to draw some figures. The other student cannot see the figures. Write a set of directions so that the other student can draw the figure and graph exactly as shown in the figure.
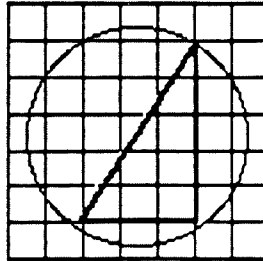
47. A container manufacturing company has been contracted to design and manufacture cylindrical cans for fruit juice. The volume of each can is to be 0.946 liters. In order to minimize production costs, the company wishes to design a can that requires the smallest amount of material possible. What should the dimensions of that can be?

48. Bob travels to work at an average speed of 35 miles per hour. He lives 14 miles from his job. How many **minutes** does it take him to get to work?

    a. 20   b. 24   c. 30   d. 49

49. Marty's bowling scores for one week were: 96, 65, 85, 91, 79, 88 and 98. What would be the best prediction of Marty's score for the next game she bowls?

    a. 96 or more   b. in the range 91 to 95   c. in the range 86 and 90   d. 85 or less

50. A recipe for chili calls for 5 kilograms of meat, 6 kilograms of beans, 2 kilograms of onion, 6 kilograms of tomatoes and 1 kilogram of peppers. This recipe serves 80 people. How many kilograms of beans would be needed in a recipe that would serve 560 people?

    a. 7   b. 16   c. 42   d. 140

51. A sweater originally priced at $32.96 is marked with a 25% discount. Which represents the new price of the sweater?

    a) .25 x 32.96   b) .75 x 32.96   c) 32.96 - 25   d) 32.96 - (.75 x 32.96)

4-22