

TREND

# TIMSS

$$(x^2 - 2x) + (-x^2)(x^3 +$$



International Association for the Evaluation of Educational Achievement  
aX7VgUSfja` S^3UZ[MWV Wf  
Ä 5abkdYZf;73! \$" " \*

# General Directions

KagdeLZaa^ZSeSYdVW fa bSdf[U]bSfW[ F;? EE 3VhS` UW \$" " \*žEba` eadVW Tk fZW` fVd Sf[a` S^ 3eaaU[Sf[a` XadfZW7hSgSf[a` aX7VgUSf[a` S^ 3UZ[VWV\_ Wf;/73fif;? EE^AdFdVVe[ ; fVd SŽ f[a` S^? SfZW\_ Sf[LeS` V EU[VW UMEfgVkf[ie\_ VSegdŽ [ Y fdVVe[ efgVWfSUZ[VWV\_ WfS` V efgVkl Y V[ VdVUW[ ` Sf[a` S^VWgUSf[a` ekefV\_ e[ adVd fa ZWb [ bdahVWVbUZ[ Y S` V Vsd [ Y i adVŽ i [VŽ

3ebSd aXFZWefgVkl efgVWfe[ S` Sf[a` i [WV eS\_ b^Wax. fi VWFŽYdSVWU USeeV[ . Uag` fckO i [^Ua\_ b^VWFZF;? EE 3VhS` UW\_ SFZW\_ SfZ [LeS` V!adbZke[Le fVf[žFZ[ecgVf[a` ` S[dM[e SVVdVW fa fZWVbUZVW aXFZVWefgVWfež3e SfVbUZVWaxa` WaxfZWeS\_ b^W USeeV[ kagddV eba` eVefa fZVWcVf[a` eSdVhVkl [ badS` f [ ZWb[ Y fa VVUqTWWgUSf[a` [ . Uag` fckOž

Ea\_ WaxfZWcVf[a` e[ fZ[ecgVf[a` ` S[dVWVd ebWU[-US^k fa efgVWfe[ fZWf;? EE USeeSfZ[e [efZWUSeefZSf[e[VWf[-W a` fZWahVWaxfZ[e cgVf[a` ` S[dMS` Vi [^TWVWVW SebSd aXF;? EE 3VhS` UW \$" " \* [ kagdeLZaaž;f[e [ badS` f fZSf kag S` ei VdVbUZ cgVf[a` UsdVg^k ea fZSf fZW [ Xad\_ Sf[a` kag bdah[VWVWVefekagde[fgSf[a` Se SUgdSfVWk Sebae[TV

BVSeW[VWf[k S f[ WS` V b^SUW ZVdVWkagi [^ TWST^Mfa Ua\_ b^VWFZ[ecgVf[a` ` S[dW [fZagf TW Y [ fVdVbVWFZF[eeZagV dVtgdW a\_ adV fZS` & \_ [ gfV[žFa \_ S] Wf SeVbK Sebae[TVad kag fa dVba` V[ aefcgVf[a` e\_ Sk TWS` ei VdV e[ b^k Tk ~^ Y [ fZWSbbcbdqSfWU[VW

A` UWkag ZShWUa\_ b^VWF fZWcVf[a` ` S[dW b^SUWf[ fZWdVgd W hWabWbdah[VW S` V dV fgd [f fa, . 5ag` fck EbWU[-U;` Xad\_ Sf[a` O

FZS` ] kag hVkl\_ gUZ XadfZWf[ WS` V W ad kag ZShWbqf[ fa dVba` V[ Y fa fZ[ecgVf[a` ` S[dV

## Background Information

1

How old are you?

Fill in *one* circle only

- G` VWd\$' -----○  
 \$' , \$+-----○  
 %' , %+-----○  
 &' , &+-----○  
 ' " , ' +-----○  
 (" ada VWd-----○

2

Are you female or male?

Fill in *one* circle only

- 8W SW-----○  
 ? SW-----○

3

A. By the end of this school year, how many years will you have been teaching altogether?

Number of years you have taught

B. How many years will you have taught mathematics at the advanced level?

Number of years taught advanced mathematics

4

How long do you plan to continue teaching advanced mathematics?

Fill in *one* circle only

- ; b`S` fa La` f[ gWV\$UZ[ Y Se`a` Y Se; US` -----○  
 ; b`S` fa La` f[ gWV\$UZ[ Y g` f[YZWabbadfg` [fk  
 XadSTWVWdaT [ VWgUSf[a` La\_ VdS`a` Y -----○  
 ; b`S` fa La` f[ gWV\$UZ[ Y XadSi Z[W  
 Tgf bdaTST`ki [VWshWfZW-VW aXWgUSf[a` -----○  
 ; S\_ g` VWU[VW Sf fZ[efL W-----○

## Preparation to Teach

5

What is the highest level of formal education you have completed?

Fill in *one* circle only

- 6[V` af La\_ b`VWV ;E576 %D-----○  
 8[ [eZW . ;E576 %D-----○  
 8[ [eZW . ;E576 &D-----○  
 8[ [eZW . ;E576 ' 4D-----○  
 8[ [eZW . ;E576 ' 3[ -df VWdWV-----○  
 8[ [eZW . ;E576 ' 3[ eVLa` V VWdWV  
 adZ[YZW-----○

6

During your <post-secondary> education, what was your major or main area(s) of study?

Fill in *one* circle for each row

- |                                    | Yes | No |
|------------------------------------|-----|----|
| Sfi ? SfZW_ Sf[Le-----○            | ○   | ○  |
| Tfi 7VgUSf[a` Z? SfZW_ Sf[Le-----○ | ○   | ○  |
| Ufi BZke[Le-----○                  | ○   | ○  |
| Vfi 7VgUSf[a` ZEUVWUW-----○        | ○   | ○  |
| Wfi 7 Y[ VWd Y-----○               | ○   | ○  |
| Xfi 7VgUSf[a` Z9WVdS^-----○        | ○   | ○  |
| Yfi AfZW-----○                     | ○   | ○  |

7

Do you have a teaching license or certificate?

Yes No

- Fill in *one* circle only-----○

How well prepared do you feel you are to teach the following topics?

Fill in **one** circle for each row

	Very well prepared	Somewhat prepared	Not well prepared
--	--------------------	-------------------	-------------------

**A. Algebra**

- Sfi AbWsf[a`ei [fZ Ua\_ bWj`g\_ TWte ----- ○ -- ○ -- ○
- Tfi FZWn<sup>fz</sup> fWd aX`g\_ WdUS`V SYWTrd[UeWdWdS`V fZWeg\_ efa n fWd ead[`~` [fk aXeWdWd ----- ○ -- ○ -- ○
- Ufi BcbTW\_e[ ha`h[ Y bWd\_gfSf[a`d Ua\_ T[ Sf[a`d S`V bcbTST[1fk ----- ○ -- ○ -- ○
- Vfi >[ V&d\_e[ g`fS` Wdgd`S`V cgSVdSf[UWtgSf[a`eS`V [ WtgSf[Wd egd/ dSV[US`fWtgSf[a`d`aYSd[fZ\_ [US`V Wj/ba` Wf[S`WtgSf[a`e ----- ○ -- ○ -- ○
- Wfi 7cg[hS`Wf dWdWVfSf[a`eaXg` Uf[a`e SeadWdW bS[d d fST Wd YdSbZd Xad\_g`Sel adi ad/e ----- ○ -- ○ -- ○
- Xfi HS`gVeaXg` Uf[a`d V! aXa

9

In your school, how often do you have the following types of interactions with other teachers?

*Fill in one*

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_











# Teaching Mathematics to the TIMSS Class (Continued)

24

The following list includes the main topics addressed by the TIMSS advanced mathematics test. Choose the response that best describes when students in the <TIMSS class> have been taught each topic. If a topic was taught half this year but not yet completed, please choose "Mostly taught this year." If a topic is not in the curriculum, please choose "Not yet taught or just introduced."

Fill in **one** circle for each row

Not yet taught or  
just introduced  
Mostly taught this year  
Mostly taught before this year

## A. Algebra

- Sfi AbWbSf[a` ei [fZ Ua\_ b`Vj` g\_ TVe ----- O -- O -- O
- Tfi FZW<sup>2</sup> fVd\_ aX` g\_ VdUS` V SYWT d[UeVdVdS` V fZWeg\_ efa n fVd\_ ead[` ~` [fk aXeVdVd ----- O -- O -- O
- Ufi Bdt` W\_ e[ ha`h[ Y bVd\_ gfSf[a` d` Ua\_ T[ Sf[a` d` S` V bdt` ST[ ffk ----- O -- O -- O
- Vfi >[ Vd` e[ g` fS` Vd` ge[ S` V cgSVdSf[Uv` gSf[a` e` S` V [ V` gS` f[Vd` egd/` dSV[US` fV` gSf[a` d`  
`aYSd` fZ\_ [U` S` V Vj` ba` W f[S` V` gSf[a` e----- O -- O -- O
- Wfi 7cg[hS` Wf` dV` dV` W` fSf[a` eaXg` Uf[a` e` Sead` Vd` W` bS` d[ fST` Vd` Y` d` bZ` d` X` d\_ g` S` e[ adi` ad` e----- O -- O -- O
- Xfi HS` gV` e` aXg` Uf[a` d` [ U` gV[ Y` dSf[a` S` Xg` Uf[a` d` X` d` Y[ hW` hS` gV` e` S` V` dS` YV`  
aXfZ` W` hSd` ST` W` Xg` Uf[a` aX` S` Xg` Uf[a` ----- O -- O -- O

## B. Calculus

- Sfi >[ [fe` aXg` Uf[a` e[ U` gV[ Y` dSf[a` S` Xg` Uf[a` e` Ua` V[ f[a` e` X` d` Ua` f[ g[ fk  
S` V` V[ Vd` V` f[ ST[ ffk aXg` Uf[a` e----- O -- O -- O
- Tfi 6[ Vd` V` f[Sf[a` aXg` Uf[a` e[ U` gV[ Y` ba` k` a\_ [S` Vj` ba` W f[S` V` aYSd` fZ\_ [U  
fd` Ya` a\_ Vd` U` dSf[a` S` dSv[US` Ua\_ baef` W` S` V` bSdS\_ Wd` U` Xg` Uf[a` efi` V[ Vd` V` f[Sf[a`  
aX` b` d` V` g` U` fe` S` V` cgaf[ W` fe----- O -- O -- O
- Ufi Ge[ Y` Vd` hSf[ hV` e` fa` ea` h` W` b` d` T` W\_ e` V` V` d [ ] [ W\_ Sf[ Ue[ abf [ ] Sf[a` f` S` V` dSf` V` e` aX` UZ` S` YW` i----- O -- O -- O
- Vfi Ge[ Y` ~` dS` V` e` V` V` a` V` Vd` hSf[ hV` e` fa` V` V` Vd [ W` dSv[ W` f` fgd [ Y` ba[ fd  
S` V` ba[ fe` aX[ e` V` V` f[a` aXg` Uf[a` e----- O -- O -- O
- Wfi ;` fV` dSf[ Y` Xg` Uf[a` e[ U` gV[ Y` ba` k` a\_ [S` Vj` ba` W f[S` V` fd` Ya` a\_ Vd` U  
S` V` dSf[a` S` Xg` Uf[a` efi` V` S` gSf[ Y` V` W` [fV[ fV` dS` e----- O -- O -- O

## C. Geometry

- Sfi B` d` b` W` f[V` e` aX` YV` d\_ Wd` U` ~` Ygd` V` b` d` h[ Y` YV` d\_ Wd` U` b` d` a` b` e` f[a` e[  
fi` a` S` V` fZ` d` W` W` [ W` e[ a` e----- O -- O -- O
- Tfi 9` dSv[ W` f` e` y` Zj` [e[ fV` d` V` b` f` d` S` V` ba[ fe` aX[ fV` d` W` f[a` a` X` e` dS[ YZf [ V` e[  
fZ` W` S` d` V` e[ S` b` S` W----- O -- O -- O
- Ufi 7` cgSf[a` eS` V` b` d` b` W` f[V` e` aX` U` d` W` e[ fZ` W` S` d` V` e[ S` b` S` W` fS` YW` fe` S` V` ad` S` e  
fa` Y[ hW` ba[ fe` a` S` U` d` W----- O -- O -- O
- Vfi Fd` Ya` a\_ Wd` U` b` d` b` W` f[V` e` aX` f` dS` Y` V` e[ W` U` a` e[ W` S` V` fS` YW` f` fi  
ea` h[ Y` V` gSf[a` e[ ha` h[ Y` fd` Ya` a\_ Wd` U` Xg` Uf[a` e----- O -- O -- O
- Wfi B` d` b` W` f[V` e` aX` hW` f` a` d` S` V` fZ` W` e` g\_ eS` V` V[ Vd` V` U` V` e----- O -- O -- O

# Calculators and Computers in the TIMSS Class

**25** During mathematics lessons, how often do you use a computer to demonstrate mathematics for the whole class?

Never  
 Some lessons  
 About half the lessons  
 Every or almost every lesson

Fill in **one** circle only:

**26** A.

\_\_\_\_\_

\_\_\_\_\_

**27** How often do students in the <TIMSS class> use calculators or computers in their mathematics lessons for the following activities?

*Fill in **one** circle for each row*

Never  
 Some lessons  
 About half the lessons  
 Every or almost every lesson

Sfi 6dSi [ Y YdbZeaX  
Xg` Uf[a` e-----

Tfi Ea h[ Y Wt gSf[a` e-----

Ufi ? S` [bg`Sf[ Y S`YVWd[U  
Vj/bdW[a` e-----

Vfi ? aVW[ Y S` V e[ g`Sf[a` ---

Wfi @g\_ W[US^[ fWdf[a` -----

Xfi BchUW[a[ Y S` V S` S`Kl [ Y  
VSfS-----


# Homework

**28** \_\_\_\_\_

Do you assign mathematics homework to the <TIMSS class>?

Yes  No

Fill in **one** circle only.....

If **No**, please go to question **32** 

**29** \_\_\_\_\_

How often do you usually assign mathematics homework to the <TIMSS class>?

Fill in **one** circle only

**30** \_\_\_\_\_

When you assign mathematics homework to the <TIMSS class>, about how many minutes do you usually assign? (Consider the time it would take an average student in your class.)

Fill in **one** circle only

0-10 minutes

11-20 minutes

21-30 minutes

31-40 minutes

**31** \_\_\_\_\_

How often do you assign the following kinds of mathematics homework to the <TIMSS class>?

Fill in **one** circle for each row

	Never or almost never	Sometimes	Always or almost always
Sfi 6a [ Y b d T W ] ! c g W f [ a` e W e	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tfi D V S V [ Y f Z W W ] / f T a a ]	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ufi ? W_ a d [ [ Y X d_ g` S e S` V b d U W g d W e	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Vfi 9 S f Z W d [ Y i S` S k l [ Y i S` V d / b a d [ Y V S f S	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Wfi 8 [ V [ Y a` W a d_ a d W S b b [ U S f [ a` e a X f Z W U a` f W f U a h W W	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

wo





**Thank You**  
for completing



$$\left. \right)(x^2 - 2x) + (-x^2)(x^3 +$$